AN ANALYSIS OF THE BALANCE OF MANAGEMENT, TECHNICAL AND LEADERSHIP PROGRESSION THROUGH THE THREE USAF OFFICER TIERS

THESIS

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AFIT/GIR/ENV/07-M10

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THESIS

Presented to the Faculty

Department of Systems and Engineering Management

Graduate School of Engineering and Management

Air Force Institute of Technology

Air University

Air Education and Training Command

In Partial Fulfillment of the Requirements for the

Degree of Master of Science in Information Resource Management

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March 2007

AFIT/GIR/ENV/07-M10

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Abstract

The purpose of this research was to identify the balance of management, technical and leadership responsibilities learned at each of the three USAF officer tiers. Specifically, this thesis sought to answer research questions addressing the essential learning elements for developing leadership, technical and management knowledge and skills as well as the proportional emphasis of the three areas in each of the three officer tiers. The questions were answered through a comprehensive literature review and a review of current professional military education (PME) syllabi and educational profiles of USAF officers. The research identified that management training does not grow with the level of PME, but rather is eliminated in the field grade officer ranks. Furthermore, general officers tend to follow the literature expectations by pursuing graduate level management education.

The culmination of this effort was the possibility of emphasizing the need for management training at the field grade officer level. Recommendations to implement more management training are discussed.

Acknowledgments

I would like to express my sincere appreciation to my faculty advisor, Dr. Alan Heminger, for taking my convoluted thoughts and impressions and guiding them towards a proper research effort. I would also like to thank Dr. Dennis Strouble for the numerous discussions of management and leadership in the armed forces and broadening my understanding of both topics. A big thanks goes out to Maj Todd Peachey for agreeing to be a reader at the metaphorically last minute and after only hearing a portion of the research details. I would like to thank my wife, not only for her support, but also for helping with the painstaking work of going though the general officer biographies with me, thus ensuring everything was recorded correctly. Finally, big thanks to my daughter who graciously gave up her section in the home office when I could no longer hold back the tide of research materials.

<div style="text-align: right">Mathew J. Heath Van Horn</div>

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AN ANALYSIS OF THE BALANCE OF MANAGEMENT, TECHNICAL AND LEADERSHIP PROGRESSION THROUGH THE THREE USAF OFFICER TIERS

I. Introduction

Background

There is a prevalent unwritten rule in the USAF officer corps: an officer should be a leader, not a manger. We put this statement to the test in a very informal and unscientific poll of 35 officers gathered to hear some topical briefings. When asked, "Who would like to be known by their boss as being a great manager?" the group laughed and only one hand was raised; probably more to elicit a reaction from the speaker to see where the question was leading than being a serious response. Now this poll was not intended as a means to achieve scientific validity, we just wanted a general idea to see if this area of study was worth pursuing.

This unwritten rule has several depths of meaning associated to it. The unwritten rule suggests a negative connotation with the role of management in the Air Force and seems to separate officers into two camps: there are managers (e.g. bad) and leaders (e.g. good). The unwritten rule also seems to imply that management isn't important to the Air Force and therefore is a skill which deserves little attention. It could also be looked as that someone who has good leadership skills are neglecting the larger picture of developing leadership skills. People could search the unwritten rule for meaning ad infinitum, but our intention is just to look at management and the Air Force officer.

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Within the academic and practitioner literature, we've identified three schools of thought on the relationship between management and leadership traits among successful CEO's, Generals, politicians, entrepreneurs, etc… First is that leadership is all encompassing and that management is a subcomponent of a great leader (Van Wart 2004:174; Sapienza 2005:473). Second is that management is all encompassing and that leadership is a necessary component of great managers (Ramirez, Alarcon et al. 2004:111; Dainty, Cheng et al. 2005:6). Finally, there is a school of thought that management and leadership are two distinct entities, but extremely successful people happen to posses both (Kotter 1990:1-18; Bass 1998:1-17). E.g. there are tall people and there are people who play basketball. Just because someone is tall doesn't mean they can play basketball and a person having basketball skills doesn't make them tall. However, the NBA is predominantly filled with players who are both tall and can play basketball. Figure 1 summarizes the three schools of thought within a military context.

Table 1. Summary of the prevailing views of the manager-leader relationship

Officers are LEADERS who must have management skills	Officers are MANAGERS who must have leadership skills	Officers are both	
		MANAGERS who must have management skills	LEADERS who must have leadership skills
School 1	School 2	School 3	

The Air Force's official opinion on the manager-leader relationship is not explicit so some extrapolating must be done. There are some examples, which taken together, suggest that the Air Force follows the first school of thought held by academics and practitioners. Firstly, the Reserve Officer Training Corps (ROTC) and Officer Training

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School (OTS) cadets study leadership which includes subsections on management principles (Lester and Morton 2001:193-216; Tryon and Halupka 2002:111-121). Secondly, officers are taught leadership (U.S. Air Force 2007:n. pag.), mentored in leadership (Department of the Air Force 2000:2), their leadership qualities are lauded when they are presented with medals and decorations (Department of the Air Force 2001:56-62) and their promotion is based on their leadership skills (Department of the Air Force 1997:9,17; Department of the Air Force 2007:91) Thirdly, at 350,000 personnel stationed all over the world (Lopez 2005:n.pag.), the Air Force is a large organization, and large organizations couldn't exist without exercising some structured management (Drucker 1977:24-25; Kotter 1990:3) Since the Air Force recruits leaders and the Air Force still manages to function, then management must be considered to be a sub-part of leadership. Or is it?

Management is still a fairly recent development over the last hundred years or so. It was developed as a way to produce consistent results for those that were internal (e.g. employees) or external (e.g. customers) to a large organization. The classic definition of management emphasizes the need for planning, budgeting, organizing, staffing, and controlling. Each of these management components provide a level of structure and order which are overseen and executed by managers. (Kotter 1990:3-4) (Kinicki and Williams 2006:2-23) (DuBrin 2006:7-8)

There are many unwritten rules within the Air Force officer corps; don't grow a mustache; don't wear ribbons on your blues; and be a leader, not a manager. However, the Air Force is riddled with managers. There are Air Force, MAJCOM, Wing,

Squadron, etc… instructions standardizing how various missions are to be performed with officers at every level appointed to oversee their troops' compliance with the instructions. As suggested by Kotter, these officers are considered to be managers because of what they do (1990:4). The Inspector General (IG) routinely evaluates units during Unit Compliance Inspections (UCI) and Operational Readiness Inspections (ORI) for the purpose of measuring the consistency in the application of standards throughout the MAJCOM and Air Force. (Baucom 2001:17-23) Simply put, these inspectors are people evaluating managers exercising management. The continuous injection of the newest management techniques shrouded as leadership initiatives such as Quality Air Force (Total Quality Management) in the 1990's and the newest incarnation, Air Force Smart Operations for the 21st century (LaBounty 2006) is based on management principles: Lean, Six Sigma, Theory of Constraints, and Business Process Re-engineering. (LaBounty 2006)

Since there is so much management already going on and management is necessary to have in any large organization (DuBrin 2006:1-2), such as the Air Force, and the Air Force implies that management is part of leadership, why the need for the unwritten rule? If management is so integral to success during IG inspections and standardized operations, why does a bullet statement which mentions an officer's positive ability to manage is lackluster at best when viewed by reviewers of Officer Performance Reports (OPRs), awards and decorations (21MSS/DPMP 2003:n.pag.; Bullet Writing 2007:8-9)? This unwritten rule seems to imply that leadership is good and management is bad. However, you cannot have a good result (leadership) if one of the components

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(management) is considered by many to portray a negative view of the officer. This unwritten rule separation of the manager-leader (bad vs. good) indicates that despite the implicit Air Force guidance which suggests management is part of leadership, that the Air Force culture considers the two to be complete separate entities; which just happens to be the third school of thought held by some academics and practitioners (Kotter 1990:4-5; Bass 1998:3).

Up to this point, we have only looked at the manager-leader relationship. However, there is a third component which is so important that the Air Force has continuously strived to recruit and educate its officers since its inception that it must be addressed (VonKarman 1945:ix; Bridgman 2002:1; United States Air Force Recruiting Service 2006:4-6; Wynne 2006:n.pag.). This third component is technical knowledge. Technical knowledge is the knowledge which a person has about the field of work being managed. For example, technical knowledge could be that of firefighting, combat operations, or electrical engineering. Amongst the first school of thought on management-leadership, there are those who claim that great leaders require technical knowledge (Shenhar and Thamhain 1994:28-29; Dainty, Cheng et al. 2005:3). The second school of thought says great managers require strong technical foundations. (Hopkins 1991:214; Sapienza 2005:476). The third school of thought does not attribute the need for technical knowledge to either management or leadership. However, the Air Force is a technological force and therefore the need for its officers to have technical knowledge is important (Wynne 2006:n.pag.). Therefore, we will slightly change our

original table to reflect that technical knowledge is important to the Air Force officer no matter if the officer is a leader, a manager, or both.

Table 2. Summary of the views on the manager-leader-technician relationship

All Air Force officers must possess technical knowledge			
Officers are LEADERS who must have management skills	Officers are MANAGERS who must have leadership skills	Officers are both	
		MANAGERS who must have management skills	LEADERS who must have leadership skills
School 1	School 2	School 3	

Problem Statement

People have a finite amount of time in which to learn, perfect and maintain competence with skills and knowledge. People forget information; our bodies' motor skills forget how to perform activities with ease after years of disuse; some fields (especially engineering and science) require constant learning so as not to lose touch with what is happening within the field.

Academic and practitioner literature suggests that first line supervisors (which would be Company Grade Officers (CGO) in the Air Force ranks of Second Lieutenant, First Lieutenant and Captain) focus a great deal of effort on the technical aspect of their career field, while learning and performing some managerial skills, while observing and learning leadership principles. At the middle manager level (Field Grade Officers (FGO) in the Air Force ranks of Major, Lieutenant Colonel and Colonel), technical knowledge is important, but the person spends more time exercising and perfecting previously learned management skills, while studying more leadership techniques and trying to put them

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into practice. If a middle manager seeks advancement in the organization, the person will have to pursue management and leadership skills, which leaves little time to stay involved in the latest technical theories of their field. Finally, CEO's (General Officer (GO) ranks) require broad technical knowledge with little 'nuts and bolts' understanding while possessing a great understanding and some implementation of management skills, but the main focus of their efforts is on perfecting and exercising leadership skills (Evans and Bredin 1987:221-223; Shenhar and Thamhain 1994:32).

Research Focus

This research explores the progression of the Air Force three tiered officer responsibility structure (CGO, FGO, GO) and how the balance of technical, managerial, and leadership responsibilities at is level is provided to officers. Existing studies would suggest that a person in charge of people or processes within large organizations would want to have a balance of management, leadership and technical skills and knowledge appropriate to their oversight position within the organization. This balance of skills and knowledge would need to change according with the level or responsibility.

Investigative Questions

The Air Force mandates Professional Military Education (PME) at several points in an officer's career. This is provided through several schools which officers must attend. Presumably to provide the officer with the skills and knowledge to perform well at their current or anticipated level of responsibly. We will investigate what the Air Force teaches its officers at the different schools. In order to generate a comprehensive

feel for what knowledge and skills officer's posses, we will also look at officer's formal educational profile. Finally, we will look at active duty generals to see if any education and training trends emerge amongst the top leaders of the Air Force.

Methodology

We are going to look at the current syllabi of the various schools officer have to attend starting with the three accession schools all the way through the Air War College. We will then sort the lessons according to military, leadership, and managerial focus and graphically depict the results from second lieutenant to colonel. Second, we will look at formal education for the same ranks. We will sort the education focus according to technical, managerial and miscellaneous (other) categories. Third, we will look at the biographies of general officers and categorize their education according to technical, managerial, and miscellaneous (other) categories and plot them on a chart at the three officer tiers. Finally, we will compare the generated charts to the model suggested by the literature to see if any similarities or differences can be seen.

Assumptions/Limitations

Assumption: Leadership and management are two distinct entities.

Assumption: The Air Force hires from within its organization. Therefore it must "grow" officers from one tier to perform well at the next tier. Therefore, the PME it provides to all officers is a good indication of what knowledge and skills are important at each level of responsibility.

Limitation: The syllabi for the mandated Air Force schools were not released in their entirety, only the lesson titles and few descriptions were released. Therefore, the lessons could contain material not identifiable solely by titles.

Limitation: This study is a snapshot in time. The PME and formal education trends are as are as current and accurate as the day the information was retrieved.

Limitation: Only active duty personnel information is analyzed. Guard and Reserve officers have been excluded.

Limitation: General Officer biographies are self reported and since the biographies were not written to satisfy this research, the key information which could be beneficial to this research might be omitted or incomplete.

Implications

This research will provide a generalized view of management, leadership and technical education that company grade, field grade, and general officers receive. This view will bring to light knowledge areas which the Air Force feels is important (via professional military education) as well as knowledge areas supplemented through completion of formal education. By comparing the USAF view to the literature model, the Air Force could discern a need for change with its PME or formal education needs.

Preview

The Air Force culture seems to assign negative connotations to management knowledge while emphasizing the need for technical and leadership knowledge, we would expect that the balance would look different than models proposed by the

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literature. We could expect that technical knowledge would be carried more across the

three tiers than literature suggests, management skills would be closely narrowed and that

leadership would have more of an impact at the entry level ranks. Furthermore, the Air

Force is continuously sending its Officers back to schools at all three tiers. This creates a

possibility that the balances maintain a constant level. However, it is conceivable that

this study could find a balance not yet considered.

> *"Management and mangers are the specific need of all institutions, from the smallest to the largest. They are the specific organ of every institution. They are what holds it together and makes it work. None of our institutions could function without managers."* (Drucker 1977:9)

II. Literature Review

Chapter Overview

This chapter will discuss the problems in discerning between leadership and management. Then it will cover the three schools of thought regarding the relationship of leadership and management skills. It will briefly cover the Air Force's view on leadership and management by looking at two of the Air Force commissioning sources cadet learning materials. It will continue looking at the Air Force's view on leadership and management by looking at how these factors apply to recruitment, rewards and promotion for Air Force officers. Next, a summary of the professional military education (PME) path for the officers in the ranks of lieutenants through colonel will be presented. This will be followed by brief discussion on organization's need for management and the Air Force's need for management. The chapter will conclude with a discussion on the balance of leadership/management/technical skills at the entry, middle, and senior levels of an organization producing a graphical representation for comparison with the data collected.

Description of Sources

Published literature concerning leadership and management skills technically educated people would need in order to advance through the ranks of an organization seemed to peak in the 1980's and early 1990's. Air Force publications on related material are scarce. Where possible, Air Force instructions, policy directives, news

articles are used. However, some of the present day Air Force material had to come from

unpublished sources such as websites, presentations, speeches and news articles.

Relevant Research

Difficulties in distinguishing between leader and manager

Most research in the area of management and leadership does not address the

specific issue of whether the person in charge is a leader (with management skills),

manager (with leadership skills) or both. However, we are able to find articles that

identified skills and knowledge necessary for people holding positions of responsibility

within different organizational layers. Amongst the numerous articles, we closely looked

at 20.

Of these 20 articles, we determined that 12 of the articles used the term leader or

manager (or variations thereof) interchangeably in describing the same person or position

within an organization while two of the articles maintained separation of the terms, but

without explanation of why they were used differently. Of the remaining five articles,

three of the articles stipulated that managers are leaders with the result that only two

articles distinctly did not use the terms interchangeably and the authors explained why

they are different for the purposes of the article.

Another problem with the identified articles was that there was no exclusivity on

what traits are attributed to either leadership or management. For instance, portraying a

vision for the group or section would be regarded as a leadership responsibility in one

article (Edgeman, Park Dahlgaard et al. 1999:52-53) and would be regarded as a

management responsibility in another (Groysberg, McLean et al. 2006:94).

Therefore, after reading numerous articles, we determined that overall there are no clear cut rules of usage for the terms management and leadership when describing a person in charge of people or work process. Other than a brief surge in the literature during the 1980's and early 1990's on technically oriented individuals (engineers, scientists, etc…) serving in the roles of management or leadership, we couldn't find any trends which addressed the balance of all three areas of leadership, management and technical responsibilities. However, we did notice that overall, articles or books written about management or leadership seem to fall into three broad schools of thought.

Three schools of manager/leader relationship

The first school of thought concerning the relationship between management and leadership is that leadership is the key ingredient of the person in charge and this person's attributes and skills enhance their ability to be a leader. Some of these skills are bound to be managerial in nature, thus requiring leaders to have some management skills.

The second school of thought concerning this management-leadership relationship is that management is the key ingredient of the person in change and this person's attributes and skills enhance his or her ability to be a manager. Some of these skills are of a leadership nature, thus requiring managers to have some leadership skills.

The third school of thought is that the person in change is sometimes a manager, a leader, or both. This person in charge utilizes management and leadership skills as needed and simply adapts to the situation. In this case, the person in charge could have skills and traits which add value to the use of leadership or management skills during the course of performing job responsibilities. However, this would mean that leadership is

not a necessary component of good management, and management is not a necessary component of good leadership.

In order to discuss the three schools of thought, we must have a different way of identifying the person in charge of people or process in some other way than either "manager" or "leader". Since we are mainly concerned with Air Force functions, for the sake of simplicity, we are going to call the person in charge of people or process neither a leader nor a manager, but rather an officer. This will allow us to discuss leadership, management and technical tasks and knowledge without confusing the association of type of tasks with the label attributed to the person in charge.

First School – Officers are leaders who need management skills

The first school of thought suggests that an officer requires many skills to be a good leader. This list of skills would include the ability to be a good manager. In fact many would suggest that a person progresses from being a worker, to becoming a manager, to emerge as a leader (Hopkins 1987:249; Hinterhuber and Popp 1993:297; Concepcion-G. 2000:411).

Looking more closely at those studies which support this view of progression we can see there is no agreement on how the progression works, only that in general it flows upward from supervisor, through manager, to leader. For instance, Hopkins's study reflected a third of the students were engineers seeking management education in order to be eligible for promotion to leadership positions (Hopkins 1987:249-250).

Hinterhuber and Popp take a different approach to emphasize the path from engineer to leader. Where Hopkins's looked at engineers seeking formal education,

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Hinterhuber and Popp propose that the engineer seeking management or leadership positions should be based on the mindset required to perform well in the new position (Hinterhuber and Popp 1993:297-298).

Concepcion studied more than 25 thousand people from more than 100 different organizations which ranged from sports teams to family businesses. Concepcion determined that a person must work their way to leadership by passing through the roles of entrepreneur and manager (Concepcion-G. 2000:411-413). See Table 1 for a summary of studies which suggest a person must progress to being a leader.

Table 3. Summary of views concerning progression path to leadership

	Source		
	(Hopkins 1987)	(Hinterhuber and Popp 1993)	(Concepcion-G. 2000)
Progression ↑	Leader	Strategic Manager (e.g. Leader or Entrepreneur)	Leader
	Manager	Middle manager	Manager
	Engineer	Engineer	Entrepreneur
			Person

There are other views which suggest that progression is not necessarily required to be an effective leader, but rather knowledge of management skills is an integral component of any leader (Hopkins 1991:213; Edgeman, Park Dahlgaard et al. 1999:52-53; Van Wart 2004:175; Sapienza 2005:476). As you can see in Table 2, there is no comprehensive consensus of what skills/traits are needed to achieve a proficiency in leadership. These studies suggest that management knowledge is necessary for leadership.

Table 4. Required skills for effective leadership

	Source			
	(Edgeman, Park Dahlgaard et al. 1999)	(Hopkins 1991)	(Van Wart 2004)	(Sapienza 2005)
Skills for effective leadership	Vision	Loyalty aligned with organization	Human resource management	Human resource management
	Communication	General managerial skills	Information management	Resource allocation
	Stewardship	Broad thinking	Budgeting	Budgeting
	Creativity		Figurehead duties	Communication
	Learning		General management	Conflict resolution
	TQM Skills			Motivate others
	Conviction			'Non-Science' management skills

As shown in table 4, Van Wart lists the skills needed for a person to exercise leadership. Hopkins concentrates more on a person's thought processes and attitudes while Sapienza studies poor leadership examples and notes the missing skills. However, all four studies acknowledge that management skills (to a lesser or greater degree) is necessary for someone to perform as a leader.

The importance of management skills as a foundation for leadership is also present in several business quality awards. Several of these awards weigh leadership as a strong factor for evaluating the top businesses in the world. However, the leadership category is graded on effective use of management. This implies that those which evaluate business quality also consider that good leadership is built upon effective management. (Edgeman, Park Dahlgaard et al. 1999:52-53)

Second School – Officers are managers who need leadership skills

The second school of thought concerning the management/leadership relationship is the complete opposite of the first school of thought. The second school of thought groups together those studies which support the belief that successful managers require effective leadership skills. There are numerous articles which fall into this category, so we selected only a few to be examples of this school of thought.

Referring to a couple of management textbooks used by colleges, it is said that generally; a person in charge performs a management process which consists of four primary functions: planning, organizing and staffing, leading, and controlling. (DuBrin 2006:; Kinicki and Williams 2006) A common thread amongst published articles mirrors the management textbooks in that a manager requires leadership skills. Hunsaker looked at the interpersonal skills which engineers would have to adopt in order to become adept at management. He makes note that the engineer must use different forms of leadership in order to be an effective manager (Hunsaker 1984:8).

Thamhain developed an aptitude test for engineers to provide a score to individuals in order for them to see if they were ready to enter the field of management. Several of the questions involve an aptitude or mind-set of leadership (Thamhain 1990:6,8). He continues in this area of research and outlines how technical people can develop leadership skills to prepare themselves for management positions (Thamhain 1992:42). Shenhar and Thamhain then attributed the skills necessary are the different levels of responsibilities in an organization and they attributed leadership as a key component of effective management (Shenhar and Thamhain 1994:33).

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While Thamhain was certainly prolific in this subject area, he wasn't alone. Ramirez, Alarcon, and Knights developed a management evaluation system for benchmarking work practices. Again, leadership seemed subservient to the overall picture of management (Ramirez, Alarcon et al. 2004:110-111). Furthermore, a model predicting the performance of project managers was developed. This model also attributes leadership as part of the larger whole of effective management (Dainty, Cheng et al. 2005:3).

Third School – Officers are both managers and leaders

Our final school of thought separates management from leadership in that managers need management skills, leaders need leadership skills, and that these sills may or may not be present in the same person. Harvard Business School professor John P. Kotter succinctly separates these two entities (Kotter 1990:4-5). According to him, management consists of planning and budgeting, organizing and staffing, controlling and problem solving, whereas leadership consists of establishing direction, aligning people, and motivating and inspiring. (Kotter 1990:4-5)

Bernard M. Bass has a similar view, but uses different labels to describe the person in charge. Bass suggests that there are two types of leadership, transactional and transformational. Bass's transactional leader is aligned with Kotter's function of management in that the transactional leader assigns works, allocates resources, monitors deviations from standards and makes corrections. Furthermore Bass's transformational leader is similar to Kotter's leader in that the transformational leader envisions futures

states for the organization, encourage people to find solutions to achieve organizational goals, and motivate and stimulate people in their work (Bass 1998:3).

Despite their different use of terms for the person in charge, you can see in table 5 that Kotter's manger is similar to Bass's transactional leader and table 6 shows that Kotter's leader is comparable to Bass's transformational leader.

Table 5. Comparison of management functions between Bass and Kotter

Manager (Kotter 1990)	Planning and Budgeting	Organizing and staffing	Controlling and problem solving
Transactional leader (Bass 1998)	Allocates resources	Assigns work	Detects and corrects work deviations

Table 6. Comparison of leadership functions between Bass and Kotter

Leader (Kotter 1990)	Establish direction	Aligning people to utilize talents	Motivate and inspire
Transformational leader (Bass 1998)	Envision future states	Encourage people to find solutions	Motivate and stimulate

Air Force view on leadership and management

We had difficulty finding published Air Force views concerning the management-leadership relationship. While we found several concerning the role of leadership, we couldn't find any published guidance specifically outlining the role of management for the Air Force officer. We could only infer the Air force definition of management, the role it plays for the officer and how important management skills figure into the running of the Air Force Mission. One place we found mentions of management skills or knowledge was in some of the study materials used by cadets training to become an Air Force Officer.

Reserve Officer Training Corps (ROTC)

Reserve Officer Training Corps cadets lean lessons leadership and management lessons from AU-24, "Concepts for Air Force Leadership". The title alone would suggest that an officer is a leader and management may not be a significant factor since there is no comparable document called "Concepts of Air Force Management". AU-24 contains 107 articles segmented into 11 sections. Of these, one section is dedicated to the leadership-management relationship.(Lester and Morton 2001:193-218) This seems to place the view of the Air Force officer into our first school of thought, which is, officers are leaders, and that management skills are a necessary component of a good leader.

However, when we look at section five with more detail we find that section 5, "Leadership and Management Interface" is the smallest section in the volume and only contains four articles. Of these four articles, two deal with leadership influences, one with education, and the remaining article discusses the traps of working with a bureaucracy.(Lester and Morton 2001:193-218) Since the remaining articles contained within AU-24 do not specifically address management theories or principles, we could infer that an officer's leadership ability can be developed separately from management knowledge. This seems to place the view of the Air Force officer into our third school of thought.

Officer Training School (OTS)

Officer training school uses a completely separate set of instructional material to educate its cadets on being an officer. One of the manuals used is called "Leadership Studies". This 273 page volume is organized into 29 lessons, one of which is dedicated

to management functions and principles. As in the ROTC manual, this is reminiscent of our first school of thought in that officers are leaders, and part of being a leader is the need for management knowledge. However, in contrast to AU-24, the OTS Leadership Studies manual actually addresses different management principles and activities (Tryon and Halupka 2002:111-121). And while there is no mention of how management supports leadership, the next section, "Leadership Principles and Traits", attempts to clarify the management/leadership relationship. This section acknowledges that some studies show that leaders and managers are distinctly separate via behavior and characteristics (Tryon and Halupka 2002:130) which matches our third school of thought. However, the section propses that leaders are developed from managers (Tryon and Halupka 2002:131) which is indicative of the first school of thought. The section concludes with an unclear definition of the management/leadership relationship and emphasizes the need for both (Tryon and Halupka 2002:131).

Recruitment, Reward and Promotion

The Air Force predominantly recruits people for commission those which are either pursuing technical education (Air Force Reserve Officer Training Command 2007:n.pag.) or have a technical education (United States Air Force Recruiting Service 2006:4-7). Furthermore, recruits must possess leadership qualities (Department of the Air Force 2006:25,35,83). We could not find any mention of management skills or aptitude in any of the recruitment source's literature.

Military members earn recognition for their accomplishments in the form of awards, decorations or medals. Of the numerous awards, decorations or medals available

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to be awarded to an individual, none are awarded on basis of management skills; whereas two, Air Force Outstanding Unit Award or Organizational Excellence Award, are partially recognized on member's technical skills (Department of the Air Force 2001:62). The remaining awards, decorations and medals recognize leadership accomplishments (Department of the Air Force 2001:56-57, 59-62).

Promotion in the Air Force is based on the whole person concept. This includes numerous factors including academic and professional military education accomplishments as well as leadership (Department of the Air Force 2007:90). Management skills and accomplishments are not a consideration for promotion unless the officer's primary specialty is one of the medical fields (Department of the Air Force 2007:18). Furthermore, the Air Force guidance on mentoring seems focused more on developing technical and leadership abilities in each Airman and makes no mention of developing management abilities (Department of the Air Force 2000:2).

Officer Professional Military Education (PME) Path

The PME path for Air Force officers follows the "right level of PME at the right time" rule. While commissioning doesn't necessarily count as PME, it is important to note that all officers must attend one of the three accession schools as a condition of commissioning. With rare exceptions, the officer PME path is as follows (Department of the Air Force 1997:12):

- Lieutenants attend Air and Space Basic Course (ASBC)
- Captains attend Squadron Officer School (SOS),

- Majors attend an intermediate service school usually Air Command and Staff College (ACSC)

- Lieutenant Colonels and Colonels attend a senior service school, usually Air War College (AWC)

Need for Management

Management as a necessity for organizations has become so accepted that many publications do not explain why the need for management exists. For instance, a couple of current college text books discuss why managers are necessary, not why there is a need for management itself (DuBrin 2006:1-27; Kinicki and Williams 2006:1-23). This general acceptance that management is necessary without explanation seems to occur in many publications from the 1980's to present. However, by looking at management books prior to this, the need for management was explained in a limited fashion.

Management is necessary to ensure plans to organizational goals are implemented correctly and at the right time. Without management, an institution would cease to be an organization of people working together to achieve goals and instead be a mob of people working without integration (Drucker 1977:8-11)

Another view of why management is necessary is by looking at the need for organizations. Organizations of two or more people can achieve much more than individuals working toward the same goals. However, getting the individuals in the organization to work effectively towards the organizational objective requires some sort

of integrator. This integrator is what we call management and those that practice the art of management are managers (Drucker 1977:8-11; Mescon, Albert et al. 1977:1-32).

The Air Force has need of management

The Government Accountability Office (formerly known as the Government Accounting Office) (GAO) studies how the federal government spends tax dollars and advises congress on what activities are working correctly or have deficiencies (Government Accountability Office 2007:n.pag.). The GAO has written numerous reports of where the Air Force needs improvement in managing some aspect of its service-specific function or sub-function of a broader Department of Defense (DoD) function.

In 2006, the GAO has identified an Air Force need for management in reports such as the Cheyenne Mountain Modernization project (Government Accountability Office 2006:1), Air Force Total Force plans (Government Accountability Office 2006:1-30) and training Air Force Space personnel (Government Accountability Office 2006:1-64). The Air Force is also lauded by the GAO in its effective use of management as indicated in an evaluation of the Navy's military housing privatization program (Government Accountability Office 2006:n.pag.)

While it is practically impossible to evaluate how much management the Air Force needs just by evaluating GAO reports, the fact that the GAO mentions Air Force management (both presence and absence) is significant.

The balance of technical/management/leadership responsibilities

Some organizations rely on their technical people to improve existing products or create new ones. Because of this reliability, when a technical person makes a significant contribution to the organization, the person is recognized with a promotion. Sometimes this promotion is to a management position. However, the technical person might not be prepared for the role of manager and ends up being a poor performer in this new capacity (Hunsaker 1984:4; Poirot 1986:197; Evans and Bredin 1987:222,228).

This paradoxical trend of promoting superior job performance and then the person becomes a poor performer resulted in a slew of research concerning engineers and other technically oriented people in oversight roles. While the reasons for this paradox are variously attributed, as well as the solutions, what emerges is a generalized view of skill types needed at the first, middle, and top levels of an organization. These skills are not constant and the balance of technical, managerial, and leadership skills exist in different proportions depending on the supervisory position being filled (Thamhain 1990:7; Shenhar and Thamhain 1994:27; Kinicki and Williams 2006:22).

It is generally agreed that the first level of management (e.g. someone who supervises a small group of people or oversees the accomplishment of small project efforts) requires someone who has significant technical knowledge, some business/management knowledge. (Dunn 1966:1-6; Brush 1979:771; Kurtz 1983:263-264; Hunsaker 1984:4; Evans and Bredin 1987:220; Hopkins 1987:249; Thamhain 1990:5; Dainty, Cheng et al. 2005:2). There was no mention of leadership qualities at this level of supervision.

Generally, at the mid-level management level, a broad understanding of technical concepts seemed more necessary then in-depth technical knowledge, while a deeper understanding of management and business concepts was needed to perform well in this capacity (Brush 1979:772-773; Poirot 1986:132; Concepcion-G. 2000:416). Furthermore, the mid-level manager area is where leadership skills were being mentioned more in the literature alongside the need for management skills (Thamhain 1992:8; Shoura and Singh 1998:55; Smith 1999:89; Dainty, Cheng et al. 2005:3).

Those in the senior positions in an organization tend to require a solid foundation in business and management knowledge and experience. At the same time, these individuals tend to spend much of their time in performing leadership duties (Hopkins 1991:215; Shenhar and Thamhain 1994:32; Edgeman, Park Dahlgaard et al. 1999:50-51; Concepcion-G. 2000:416; Groysberg, McLean et al. 2006:96). Technical skills and knowledge were, at best, minimally attributed as a necessity for those at the highest levels in the organization (Shenhar and Thamhain 1994:36; Sapienza 2005:476).

By taking the focus of skills at the first, middle, and top levels of management as discussed in the literature, we can develop a simple picture. Figure 1 shows the trend of technical skills being important at the entry level supervisory positions and becoming less important at the highest levels in the organization. It also shows the increased need for management and leadership skills from basic supervisor to senior executive.
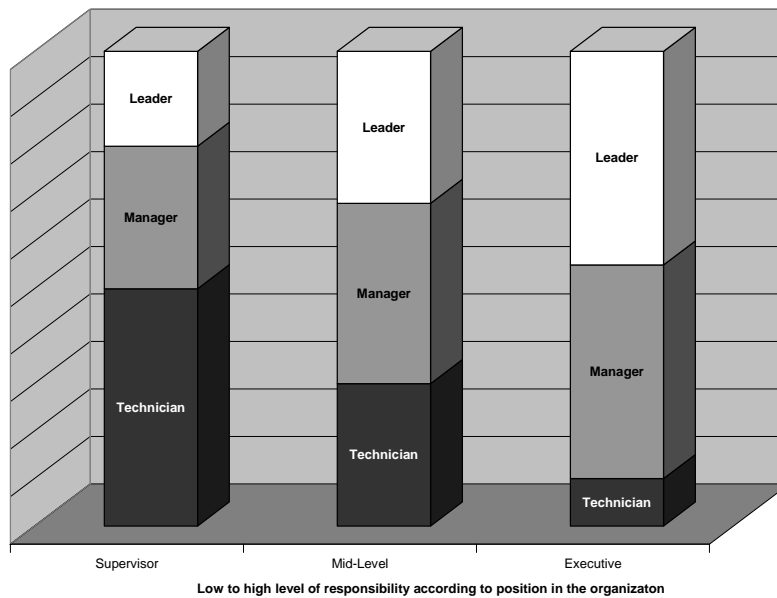
Figure 1. Person in Charge's Balance of responsibilities as a Leader, Manager and Technician as Suggested by Literature

If we were to apply the picture to the USAF rank structure, we would expect it to

look like figure 2.
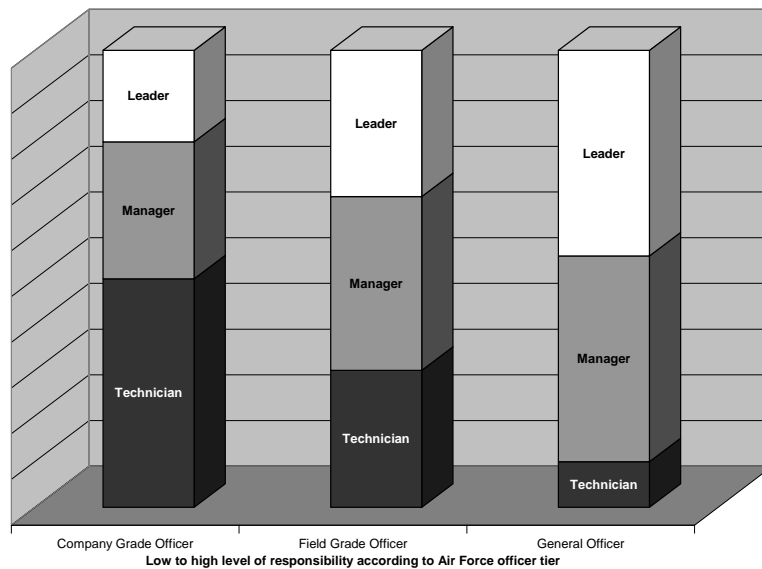
Figure 2. Air Force Officer's Balance of Responsibilities as a Leader, Manager and Technician as Suggested by Literature

Summary

This chapter briefly described the literature sources. This chapter also covered some of the problems with trying to discern a clear difference between management and leadership and the three schools of thought: officers are leaders with management skills, officers are managers with leadership skills, and officers are both leaders and managers. This chapter used ROTC and OTS training materials to determine which school of thought applies to the USAF officer. This was followed by a discussion on officer recruitment, reward and promotion and how management skills were not a factor in any of the three actions. An outline of the expected officer PME path followed. The chapter then covered a very brief discussion on the need for management in large organizations as well as a need for management in the Air Force. Finally, the balance of technical, leadership, and managerial skills was outlined from front-line supervisor through senior executive. This produced a graphic representation of general skill proportions.

III. Methodology

Chapter Overview

      The purpose of this chapter is outline the overall methodology used in this study. First it will discuss the data and any possible problems with the data. Then it will review the research questions proposed in chapter 1. The first data collection will come from the syllabi of the three officer accession schools; ROTC, OTS, and USAFA. This data will be then be collated. The second data collection will come from the syllabi of the PME schools officers must attend through the ranks of second lieutenant through colonel. The third data collection will come from current education focus from the Air Force Personnel Center (AFPC). The final data collection will come from the Air Force public website containing the biographies of active duty general officers. This data contains formal education information for the career span of the general officer. Next, it will take the four data collections and create two models: management and leadership lessons taught at the various PME levels and formal management and technical education at the CGO, FGO, and GO officer tiers. Finally it will compare the derived models to the literature model discussed in chapter 2.

Data

      The first set of data analyzed originated from the curriculum directors for the USAFA and ROTC/OTS. This data was for the current school year 2006-2007. The data did not include the full coursework for each lesson, so the data will be evaluated on lesson titles only. Each lesson will be placed in one of three groups: management,

leadership or military. The groups are differentiated by Bass's and Kotter's segmentation of leadership and management (Kotter 1990:4-5; Bass 1998:1-17).. Lessons containing management terminology will be counted as management lessons, lessons containing leadership terminology will counted as leadership lessons and the remaining lessons will be considered military.

Management terminology is defined as follows:

- Activities which involve planning and budgeting – this includes creating detailed steps, timetables or guidelines. Also includes the allocation of any type of resources such as money, manpower, or equipment (Kotter 1990:4; Bass 1998:1-17).

- Activities which involve organizing or staffing – This includes creating a structure to complete jobs (e.g. teams, groups, etc.), staffing positions with qualified individuals, delegating authority, and creating plan monitoring methods (Kotter 1990:4; Bass 1998:1-17).

- Activities which involve controlling and problem solving – This includes monitoring results (e.g. meetings, reports, etc.), identifying problem areas and taking corrective action (Kotter 1990:4; Bass 1998:1-17).

Leadership terminology is defined as follows:

- Activities which establish direction – This includes creating a vision for the organization or missions and establishing broad strategies to achieve the vision (Kotter 1990:5; Bass 1998:5).

- Activities which align people to the direction – This includes communication skills, developing interpersonal relationships, taking risks, persistence, and demonstrating commitment through actions (e.g. "walking the walk") (Kotter 1990:5; Bass 1998:5).

- Activities which motivate and inspire people to become followers – This includes overcoming challenges, maintaining project momentum, fulfilling follower's human needs (e.g. creativity, stimulating thought, intellectual achievements, etc.), and creating and fueling team spirit (esprit de corps) (Kotter 1990:5; Bass 1998:5-6).

The PME data set is analyzed in the exact manner as the officer accession data and originated from ASBC, SOS, ACSC, and AWC.

Educational data came from the Air Force Personnel Center (AFPC) website. It was obtained using the Retrieval Application Web (RAW) tool. This data shows the academic focus of the degrees held by USAF officers from the rank of second lieutenant through colonel. The limitation of this data is fourfold. First, it already collates individual degrees into groups so we must assume that AFPC categorized individual degrees appropriately. Second, ACSC and AWC grant degrees, but the data does not separate the academic focus between military degrees earned at the request of the Air Force and those earned by officers on their own time. Third, there is no way to tell if a colonel changed academic focus from when he or she was a second lieutenant. Fourth, the degree information is only for those in the current rank. Thus, we can not see what

education focus a colonel had as 2d Lt, just what focus he has at the point we collected the data.

The educational data set will be separated by academic focus into one of three categories: technical, managerial, or other.

The technical category is based on definitions of technical degrees as defined by ROTC and OTS (United States Air Force Recruiting Service 2006:6; Air Force Reserve Officer Training Command 2007:n.pag) and are listed in table 7.

Table 7. Technical degrees as identified by ROTC and OTS commissioning programs

Architecture	Aeronautical Engineering	Computer Science
Mathematics	Architectural Engineering	Operations Research
Chemistry	Aerospace Engineering	Astronautical Engineering
Physics	Electrical Engineering	Computer Engineering
Meteorology	Environmental Engineering	Atmospheric Sciences
Civil Engineering	Mechanical Engineering	Biology
Electrical Engineering Technology		Electronic Engineering Technology

The management category is based on any focus with the terms "management" or "administration" in its title as well as management fields identified by the Yale School of Management (Yale School of Management 2006:n.pag.) as listed in table 8.

Table 8. Management degrees as identified by Yale School of Management

Economics	Accounting	Business Administration
Finance	Human Resources	Logistics
Marketing	Operations	Organizational Behavior
Police Science	Politics	Psychology
Social Sciences		

The final data set comes from the biographies of USAF general officers. These biographies are listed on the officer USAF website (United States Air Force 2007:n.pag.).

The educational data from the biographies will be sorted in the same manner as the previous data sets. This means that degrees will be sorted according to technical, managerial, or other, and courses, fellows, seminars, etc… will be sorted according to management, leadership, or other.

Some biographies include degrees with two titles such as "M.S. in Engineering and Finance". Since it is impossible to discern if the degree is a double major, two degrees earned simultaneously, or even if it just a unique program, each degree will be counted for each nomenclature that follows. For example, a "M.S. in Engineering and Finance" would count once toward technical (engineering) and once towards managerial (finance).

Once all the data sets are collected and sorted, they will be formed into graphical summaries. The first one will consist of the accession and PME syllabi data. Since there are three accession schools, a method will be applied to combine these into one category. A percentage of the balance of military, managerial, and leadership lessons will be created for each school. These percentages will then be averaged to produce overall values representing accession training as a whole. As for the PME schools, a percentage of management, leadership and military lessons will be derived from the total number of lessons. Each PME school will be distinct from each other. These results will show the percentage of military, leadership and management lessons across the spectrum of the USAF officer training for the ranks of second lieutenant through colonel.

A second graphical summary will consist of the educational profiles of officers in the ranks of second lieutenant through colonel. The data will be a percentage of

educational focus in the three categories of management, technical, and other. The data will be grouped according to CGO (2d Lt – Capt) and FGO (Maj – Col). This model will show the percentage of education focus in the technical, managerial, and other fields across all three officer tiers.

The graphical summary will consist of the education profiles of active duty general officers. The data will be the percentage of educational focus in four categories management (degrees and courses), technical (degrees), leadership (courses), and other. This model will show a combination of formal education and senior leader PME that is not covered by other data sources. The model will show the percentage of formal education up to the FGO tier, since formal education at the GO tier is not expected. The model will continue with PME (in the form of courses) for FGO and GO tiers. Including the FGO PME is necessary because of "frocking", allowing a colonel to wear the rank of general and attend courses traditionally attended by generals even though the individual has not be confirmed by the congress yet. The PME included in this merger of data will not include ACSC or AWC.

There are two terms in courses taken by general officers that are used frequently to describe the course. These terms are "executive" and "commander". Both of these terms can become clouded in meaning, but for the purpose of research, a distinction must be made. When discussing how GE executives move to other corporations to become their chief executive officers, Groysberg, McLean and Nohria recognize that GE executives receive a lot of great management training (Groysberg, McLean et al. 2006:94). Therefore we will consider courses taken by general officers with executive in

the title will be placed in the management category. This view is also supported in the military context. In AU-24, an article discussing executive strategy separates the function into parts: management and commanding (Turcotte 2001:159). This brings up the usage of the word "commander" in course descriptions. Articles in AU-24 associate leadership with the role of commander (Holley 2001:341-343; Ruhl 2001:67-72). Therefore, courses taken by general officers with the term "commander" in the title will be categorized as leadership. To summarize, any course with executive in the title will fall into the management category and any course with command in the title will fall into the leadership category.

Finally, these graphical summaries will be compared to the summary identified in chapter 2 to see how they compare as far as the balance of management, leadership and management training and education changes with level of responsibility within the Air Force organization.

Summary

This chapter outlined the data and methodology used in this study. It discussed the sources of data, the limitations of the data, and how the data would be sorted. It discussed how the accession data would be averaged into a single entity representing accession lessons as a whole. Finally it ended with how the sorted data would be represented on two models which will be compared to the literature model.

IV. Analysis and Results

Chapter Overview

This chapter will look at the training provided to the Air Force at accession, Air and Space Basic Course (ASBC), Squadron Officer School (SOS), Air Command and Staff College (ACSC) and the Air War College (AWC). The training lessons at each stage will be separated into a military, leadership or management group. This chapter will also look at the formal education of all officers. The education will be separated into one of three categories: management, technical, or other. Both sets of information will each be modeled according rank from lowest to highest.

Reserve Officer Training School (ROTC) Analysis

The ROTC accession program is a 4-year program. Each year the cadets learn a little bit more about the Air Force. Generally, the time spent in ROTC instruction progressively increases with the general categories broken down into classes as follows: freshmen receive an introduction to the Air Force, sophomores are taught military history, juniors learn leadership and management, and seniors are brought up to speed on specific Air Force programs and skills (see Appendix A for complete syllabus).

In performing our analysis of each year's syllabus, we applied the definition of leadership and management as defined in chapter 2 and identified 27 leadership and 10 management courses. We regarded the remaining 89 courses and tests as being military specific in nature. See figure 3 for a graphical view.
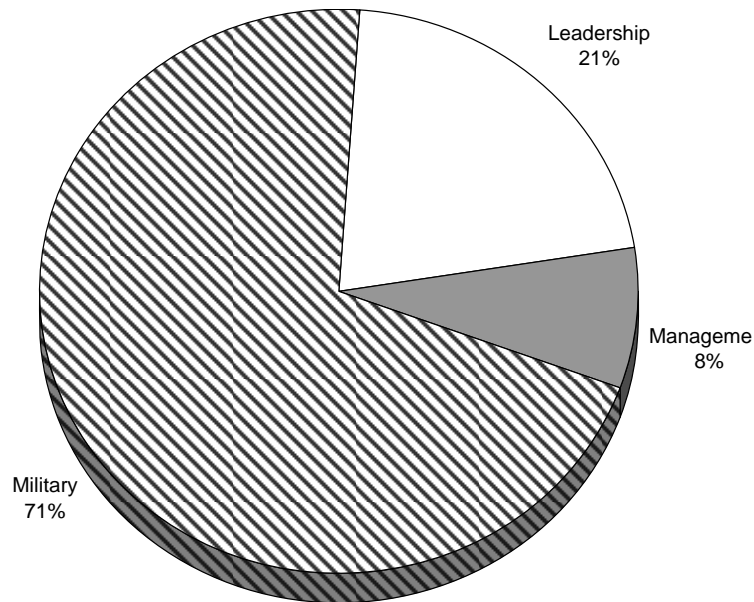
Figure 3. Analysis of ROTC Cadet Training Courses

Officer Training School (OTS) Analysis

The OTS accession program is twelve weeks in length and cadets are taught courses on Communication Studies, Military and International Studies, Leadership Studies, Drill and Ceremonies, Field Leadership, Physical Readiness, and Profession of Arms. As in the analysis of the ROTC training, we separate the military training into one category, and evaluate the leadership and management sections by applying chapter 2's definition of leadership and management functions. See appendix B for a full list of lessons in the OTS curriculum.

We included the following lessons in their entirety and attributed them to military responsibilities: Drill and Ceremonies (25 lessons), Physical Readiness (6 lessons), Profession of Arms (42 lessons), and Military and International Security Studies (16

lessons). This provided a total of 89 lessons for educating cadets in military

responsibilities.

In the area of Communications Studies (CS), we eliminated three of the eighteen

lessons because CS-2D is a make-up lesson for CS-2B, and CS4A and B are not

something in which all cadets are participants. Of the remaining 15 lessons, we attributed

all but lesson CS-0A.1 as a function of leadership.

The Leadership Studies (LS) section contains 44 lessons. Of those, we found 11

management lessons and 8 leadership lessons. The remaining 25 lessons were deemed

military lessons. Furthermore, lesson LS-4A (Leadership and Management Case Studies)

indicates that both management and leadership is considered in the same lesson, so we

will count it twice, for a total of 46 (9 leadership, 12 Management, 25 Military).

For the area of Field Leadership (FL) we analyzed the 23 lessons. Of these, we

determine that 9 could be considered management since Operation Execution is

controlling the plan implementation as well as monitoring and correcting deviations in

implementation of the plan.   The remaining lessons were sorted as 4 leadership and 10

military lessons.

This analysis of the OTS curriculum provides us with 124 lessons in military

responsibilities, 27 lessons in leadership, and 21 lessons in for a total of 172 lessons. As

you can see in figure 4, out of 172 lessons, 72% are considered to be military

responsibilities, whereas leadership is 16% of total training, and management makes up

the remaining 12%.

Leadership
16%

Managem...
12%
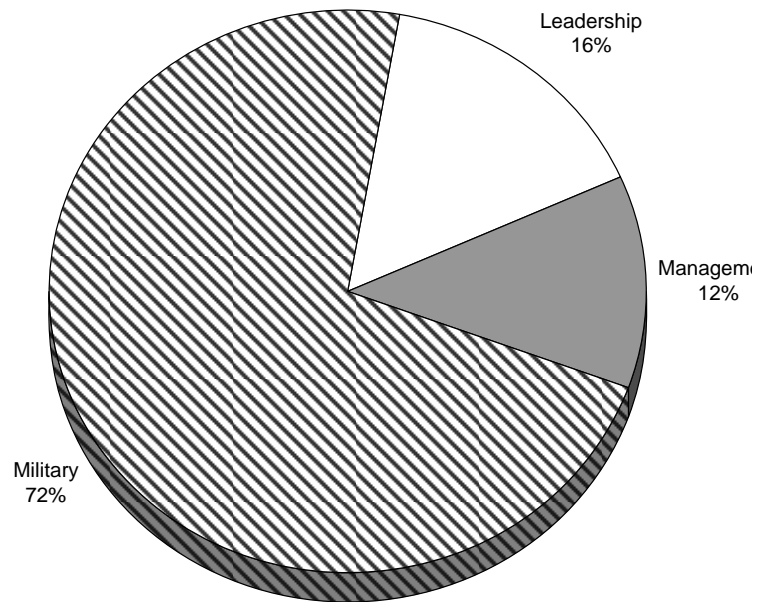
Military
72%

Figure 4. Analysis of OTS Cadet Training Courses

United States Air Force Academy (USAFA) Analysis

Applying our methodology to the USAFA syllabus, we found that overall, the balance of military, leadership and managerial skills were taught at roughly the same balance at each year of their attendance at the academy. This resulted in a total of 118 military lessons, 22 leadership lessons and 9 management lessons of each cadet throughout their attendance. See figure 5.
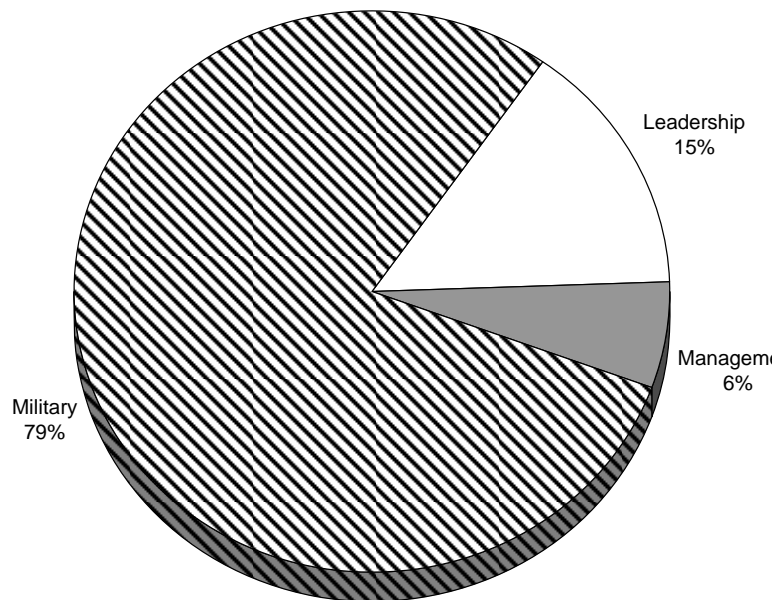
Figure 5. Analysis of USAFA Cadet Training Courses

Accession program analysis as whole

After analyzing the three accession programs separately, we need to combine the

results. Since the programs use different methods to designate their lessons, this results

in a different number of lessons for each program. Therefore, by taking the average

percentage of all three programs, we can then gain a composite view of the accession

programs as a whole. As you can see in figure 6, military lessons are clearly

predominating, with leadership and management following in order.
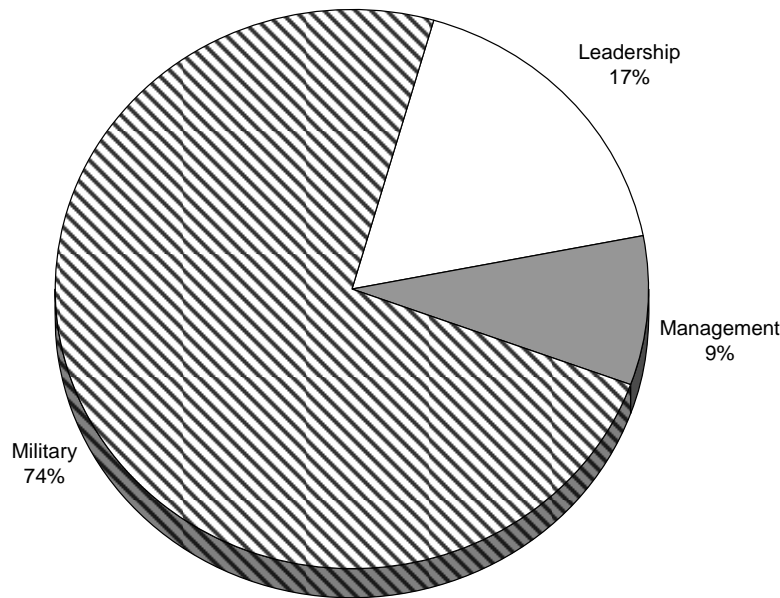
Figure 6. Composite View of the Analysis of ROTC, OTS, and USAFA Cadet Training Courses

Company Grade Officer Training

Company Grade Officer (CGO) training is the Professional Military Training (PME) training which USAF officers in the ranks of second lieutenant, first lieutenant and captain must attend. The two PME schools are the Air and Space Basic Course (ASCB) which an officer attends as a lieutenant, and Squadron Officer School (SOS) which an officer completes at the rank of captain.

Air and Space Basic Course (ASBC) Analysis

ASBC is oriented for officers at the beginning of their commissioned career. This is usually for those in the rank of Second Lieutenant (O-1), but First Lieutenants (O-2) attend when mission requirements prohibited them from attending earlier. The lessons are broken down into six areas: Profession of Arms, Leadership and Management, Military Studies, Communications, International Security Studies, and Combined

Operations (see appendix D for the complete syllabus). Applying our methodology was pretty straightforward and only two areas required special attention. Lesson A2900 contained both management and leadership in the title; therefore we counted the lesson twice, once for each category. In the area of communications, we considered lesson A4330, Public Affairs Training, as a military responsibly and not a general communication function required by leaders as whole.

The analysis broke down in the following way. Lessons concerning military functions dominate the coursework at 86% of all lesson content; this was followed by management at 8% with leadership consisting of 6%. See figure 7.
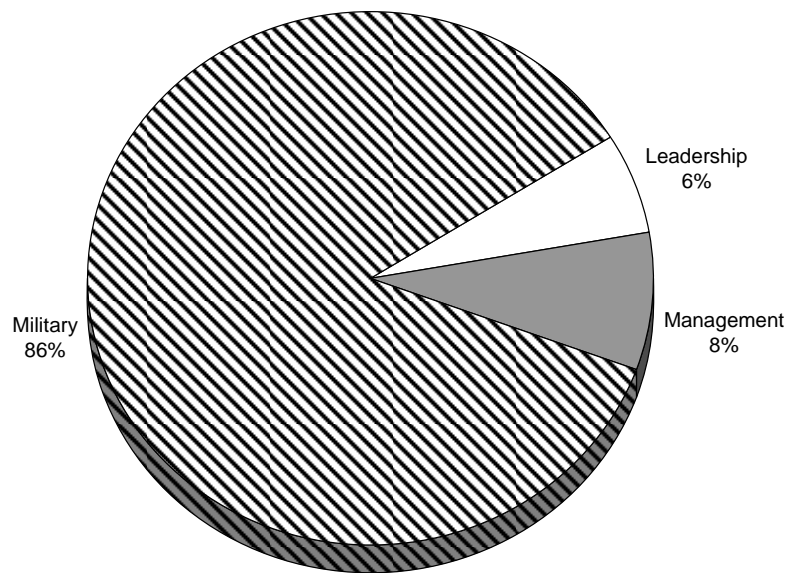
Figure 7. Analysis of Training Provided to CGO's at ASBC

Squadron Officer School (SOS) Analysis

Air Force captains (O-3) complete this coursework either in-residence or by correspondence. Like the other syllabi, there were instances that contained multiple types of lessons (see appendix E). And as before, the lesson was counted once for each category it fell into. Furthermore, Area 9000 (administration) seemed more like administrative tasks and less like lessons, so we did not count them in our study. Applying our methodology produced the following results: Military lessons consisted of 68% of the total learning, leadership lessons are 28% and management lessons resulted in 4% of the total coursework (see figure 8).
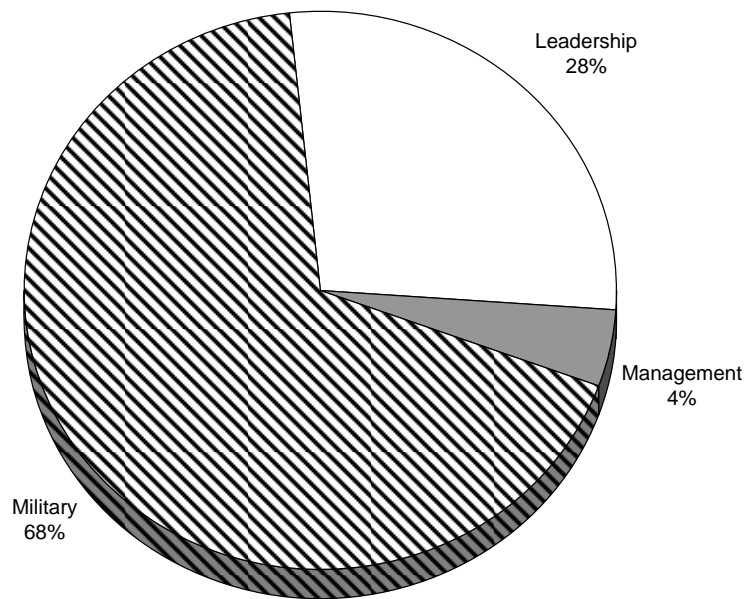
Figure 8. Analysis of Training Provided to CGO's at SOS

CGO training as a whole

With few exceptions, Air Force CGOs are expected to complete both ASBC and SOS courses. Therefore to get a composite view at the training CGOs must complete, we will add the number of tasks in each category from each course. This provides us a total of 151 lessons broken down by percentage as shown in figure 9.
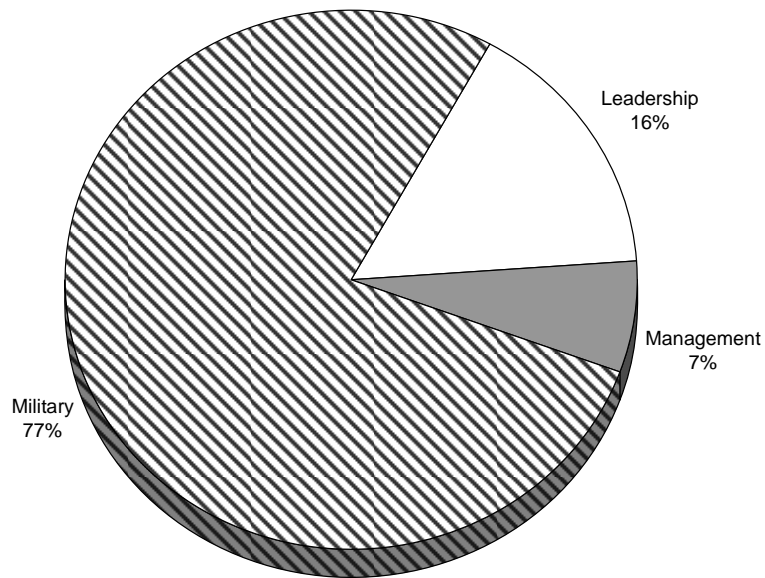
Figure 9. Composite View of CGO Training

Field Grade Officer (FGO) Training

Field Grade Officer (FGO) training is the Professional Military Training (PME) training which USAF officers in the ranks of major, lieutenant colonel and colonel should attend. The two PME schools are the Air Command and Staff College (ACSC) which an officer completes as a major or when selected for promotion to major, and Air War College (AWC) which an officer completes at the ranks of lieutenant colonel or colonel.

Analysis of Air Command and Staff College (ACSC) Syllabus

As we change from the CGO officer tier to the FGO officer tier, it is observed that the lessons become less numerous than the previous schools. However, by applying the methodology, a breakdown of lessons is still possible. There are 55 lessons (see appendix F) and are categorized as shown in figure 10.
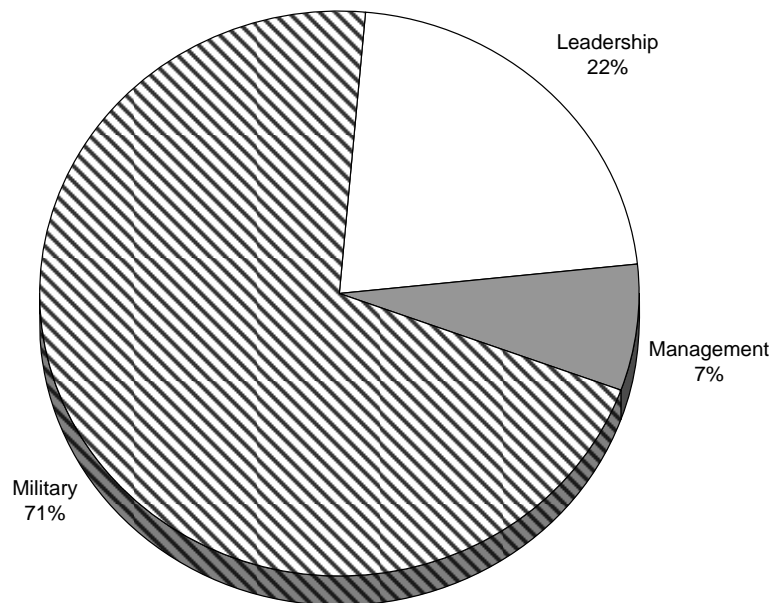
Figure 10. Analysis of Training Provided to FGO's at ACSC

Analysis of Air War College (AWC) Syllabus

After applying the methodology, three notable items are revealed at this stage of training. First, at 27 lessons (see Appendix G), this course has fewer lessons than any of the other courses. Second, is that there are no management lessons at all. Third, leadership instruction is much more predominate then any of the previous courses (see figure 11).
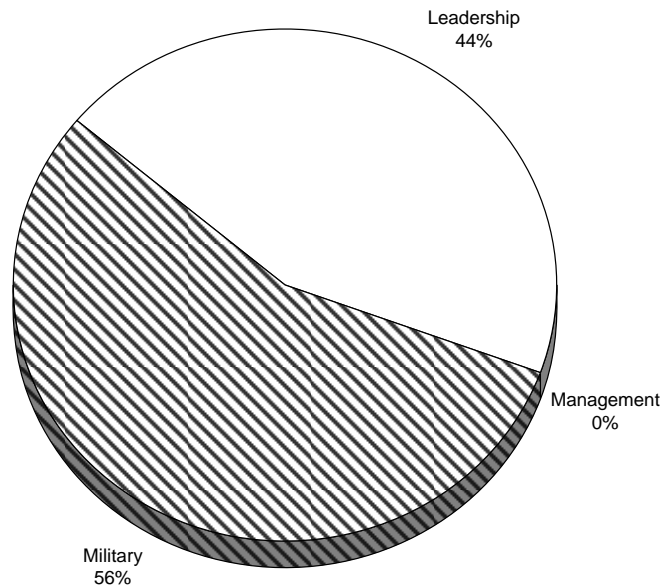
Figure 11. Analysis of Training Provided to FGOs at AWC

Education Profile of USAF Officers from second lieutenant through colonel

The educational data was accessed form the Air Force Personnel Center on 16 Feb 07. The data contained the educational data for each rank from second lieutenant through colonel. At each rank, data was retrieved for the highest education level and sorted by the most recent academic discipline. The methodology of sorting the academic discipline according to management, technical or other is applied to the educational data and is broken down by rank from lowest to highest in table 9 and shown in figure 12.

Table 9. Academic disciplines sorted by type and lowest to highest rank

Academic Discipline		Officer rank					
		2Lt	1Lt	Capt	Maj	LTC	COL
	Management	1693	2,557	6,944	5,785	3,771	1984
	Technical	2401	2841	5,435	2604	890	200
	Other	3,311	3299	10,860	7,257	6,028	1307
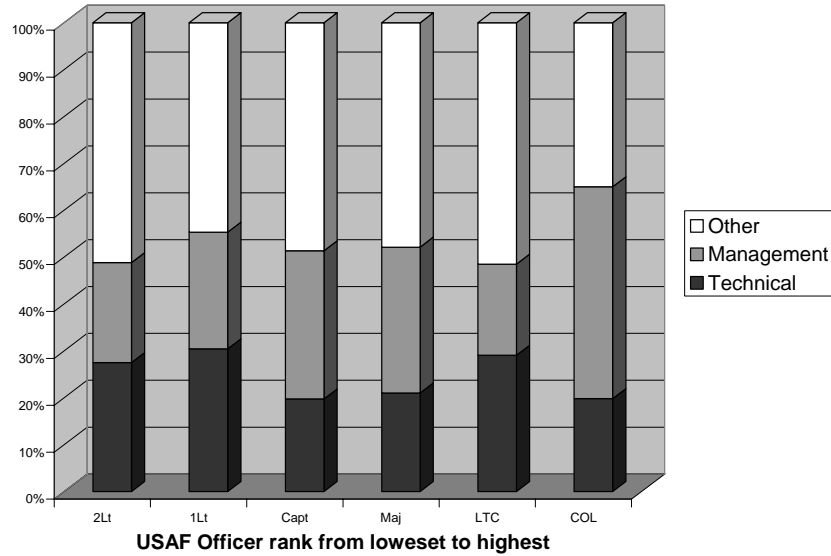
Figure 12. Academic Discipline as of 16 Feb 07

When looking at the data, it initially appears that the captain ranks have a surge of education. However, one must keep in mind that the captain ranks are the most populated officer ranks in the Air Force and incorporates those offers in the 4-10 years of service window. It appears that there is a surge in "other" degrees at the lieutenant colonel rank. However this is due the graduates of Air War College PME completing degrees such as Airpower Studies. See figure 13.
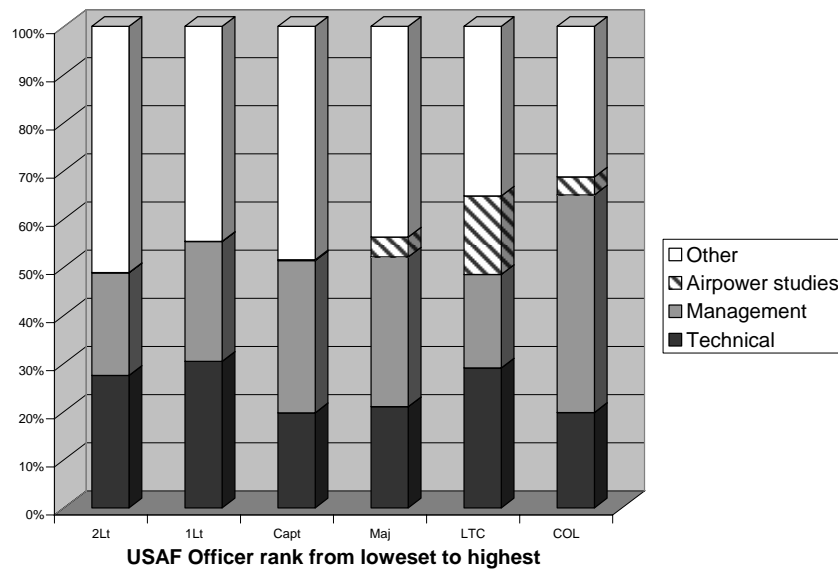
Figure 13. Academic Discipline (16 Feb 07) with "Air Power Studies" Identified

Education analysis of active duty general officers

The biographies of active duty general officers were analyzed for the period of

Jan 17, 2007. Their educational background up to colonel was categorized into technical,

managerial and other, thus following the same guidance as that used for those in the ranks

from second lieutenant through colonel. There was some overlap in the FGO tier. This

was in the form of seminars/courses/programs/fellowships (hereafter only referred to as

courses) attended by generals and select colonels who attended the general level courses

when they were frocked for general. However, it can not be said for certain that this

occurred without exception.

These courses were categorized according to the methodology where if the title

included the term management, administrative, or executive, the course was considered

management. If the course title contained the words leadership or command, then the

course was considered to be leadership. There were no obviously technical courses completed by general officer once reaching the general officer rank. The educational breakdown is shown in figure 14.

	CGO	FGO	GO
⬚ Other	218	195	59
□ Leadership	0	16	55
▦ Management	249	151	50
■ Technical	123	1	0

Educational focus by officer tier
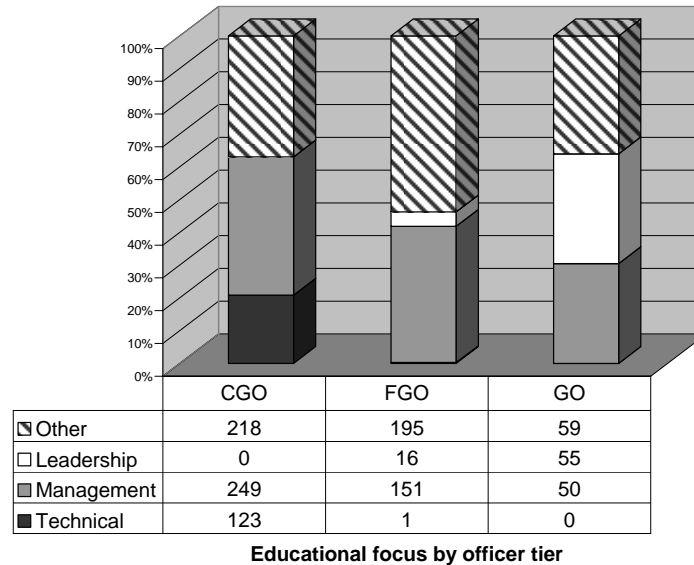
Figure 14. Analysis of General Officer Biographies

Investigative Questions Answered

The PME education provided to Air Force officers through the ranks of second lieutenant through colonel were analyzed by categorizing the lessons form each course into management, leadership or military. Since the vast majority of general officers reported in their biographies the courses they took after making general, we could consider these course to be a reflection of general officer PME. Putting them together in one graph shows a composite picture of Air Force officer PME. See figure 15.
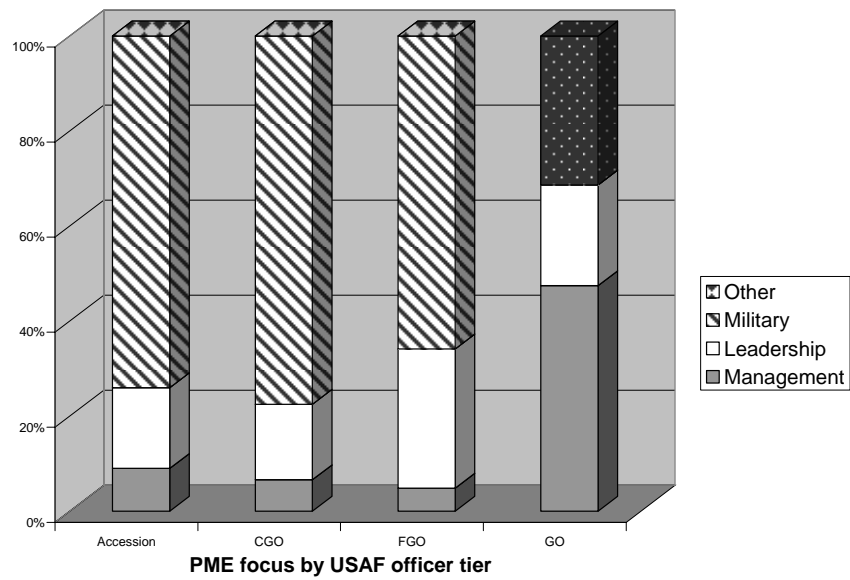
Figure 15. Composite overview of PME for the Air Force Officer

The formal education of officers from second lieutenant through colonel was analyzed using AFPC data regarding their educational focus. The general officer formal education data come from their biographies. See figure 16.
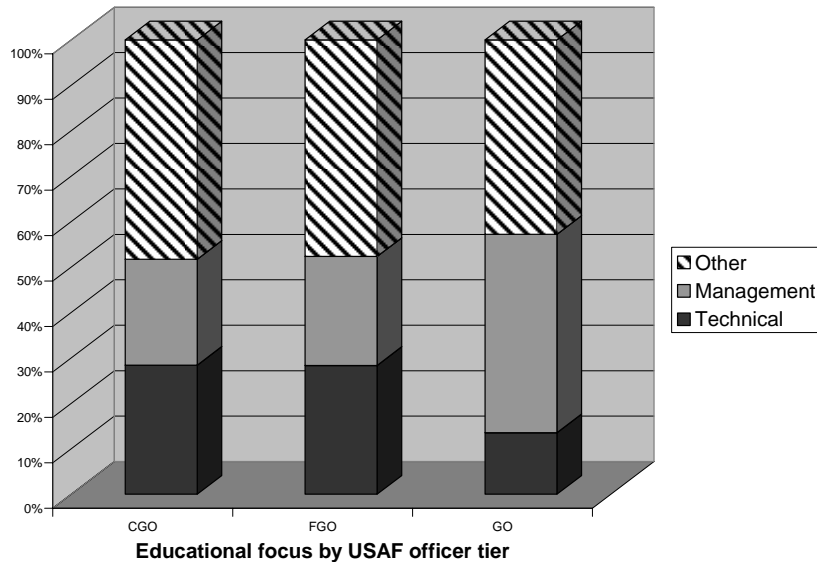
Figure 16. Composite overview of formal education completed by USAF officers

Summary

Professional military education syllabi for the CGO and FGO tiers were collected and the lessons were sorted into three categories: leadership, management and military. General officer PME was in the form of courses taken after achieving the rank of general. These courses were sorted into three categories, leadership management and other. A composite view of officer PME across the three tiers was presented in a graph.

Formal education information for the CGO and FGO tiers was collected from the Air Force Personnel Center website. This education was sorted into three categories: management, technical, and other. The formal education for the GO tier was collected from the USAF public website of general office biographies. The GO education was sorted into the same categories as the CGO and FGO tiers. Finally, all the formal education was then summarized in a graph showing the proportion of management, technical and other educational degrees held at all three levels.

V. Conclusions and Recommendations

Chapter Overview

This chapter will discuss the conclusions of the research and describe the significance of the research on the Air Force. It will continue with action recommendations based on the research results. The chapter will then discuss the limitations of the research and conclude with recommendations for future research efforts.

Conclusions of Research

Looking at the professional military education (PME) taught by the Air Force, we notice that it does not seem to follow the trends identified in the literature review. Smaller versions of figures 1 and 15 are repeated here for ease of reference.

Looking at the management training (grey in both figures), we can see that in the literature, management seems to have increasing importance as the level of

Low to high level of responsibility according to position in the organizaton

PME focus by USAF officer tier
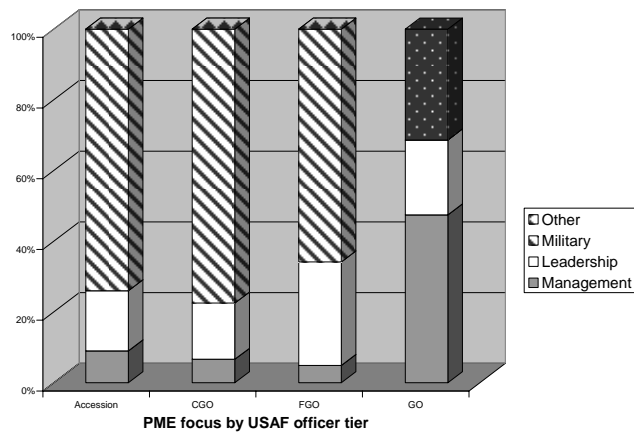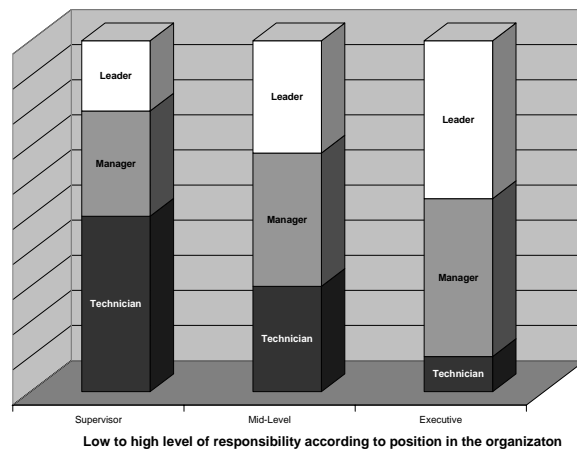
responsibility increases. However, the analysis of USAF PME reveals that management training seems of little importance in officer training overall until reaching the general officer tier. Instead the PME focus is on military and leadership skills, with leadership becoming more noticeable in the FGO tier. There are some possible explanations for this mismatch between the PME and published literature.

First, the Air Force, like the other services, promote from within. They cannot find someone who has excellent leadership qualities and place them into a general officer position. General officers, for the most part, begin their service as lieutenants and all started out in the CGO tier. Therefore, in order to produce a leader at the general tier and not knowing which CGO will learn all the skills necessary to be promoted to the general ranks, the PME must provide all with leadership training.

Second, the military is a completely different culture from the civilian population. This is obvious by the different laws, policies, procedures, dress and appearance, functions, etc… Where the accession tier is more focused on military appearance, acronyms and structure, the FGO tier seems to be more focused on laws and war planning. Since PME has a limited amount of time and thousands of officers to train each year, we would expect that lessons concerning life and death situations for friendly and enemy forces along with the roles and treatment of civilians would take greater precedence than teaching officers how to achieve a 20% increase in efficiency or similar management principles.

Third, Air Force officers might be expected to learn management principles through job immersion; that is, learn by doing. While this seems plausible, even the Air

Force Instruction on mentoring did not instruct superior officer to instruct junior officers in management techniques. That is, except for the medical fields. The learn-by-doing approach doesn't seem appropriate either when you consider the number of responsibilities an officer will be assigned over their career. It is doubtful that an officer would continue to be promoted if he or she had numerous management failures occur while trying to learn management principles.

Finally, it could be that officers do receive management education, just not as a product of Air Force PME. Rather, officers desiring promotion in the "up or out" Air Force seek avenues that will aid them in successfully accomplishing assignments. Take for instance the concept that completing assignments requiring little leadership skill, would generate opportunities for more assignments with each assignment requiring a progressive amount of leadership skill. The better track record of successful leadership abilities presents a better picture to the promotion boards. One could suppose that early assignments requiring some, but not a lot, of leadership skills would require skills in the technical and management areas. Since officers are already recruited based on technical competencies, then to show abilities stronger then the officer's peers, he or she would have to gain management skills. One of the avenues could be through formal management education such as earning an MBA, which brings us to the results of the educational profile of the Air Force officer.

For ease of reference, figures 1, 14 and 16 are reproduced here. Looking at the proportion of technical (black) and management (grey) degrees in the CGO and FGO tiers, it seems that educational focus somewhat matches the literature's expectations. Overall, general officers tended to deemphasize technical education as they progressed in rank with only one GO striving for technical education while in the FGO tier. Furthermore, we can see that the leadership and managerial focus generally resembles the literature expectations for executives in that both categories increase with the officer's rank.

Low to high level of responsibility according to position in the organizaton

	CGO	FGO	GO
▨ Other	218	195	59
☐ Leadership	0	16	55
▦ Management	249	151	50
■ Technical	123	1	0

Educational focus by officer tier

Educational focus by USAF officer tier
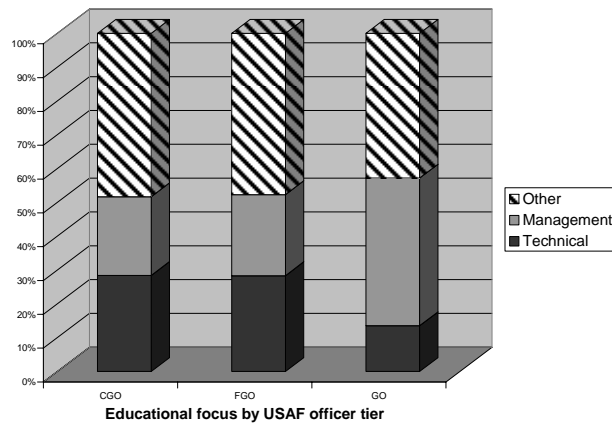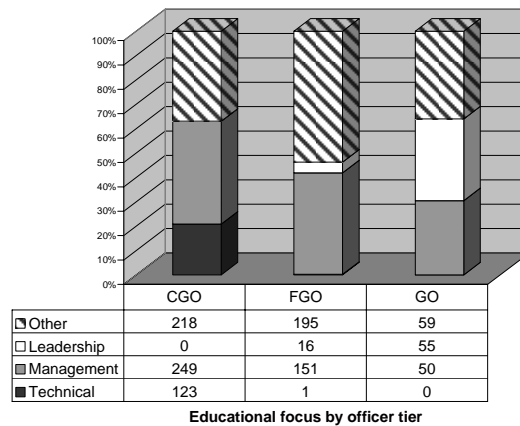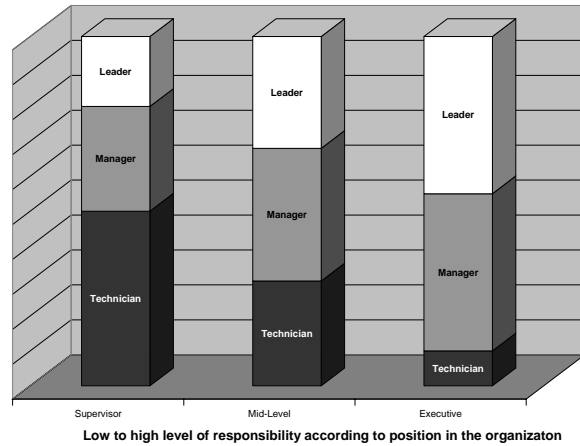
Significance of Research

Even though the Air Force focuses on technical and leadership skills, the analysis of general officer data reveals those which follow an educational path similar to that

discussed in the literature. Furthermore, the generals did not achieve the literature

balance through USAF PME, but rather through a progression of formal education.

Another significant factor is that the FGO analysis of both the PME and the educational

focus generally did not match the literature expectations for organizational middle

management. This could be an indication of a lack of management education at the FGO

levels.

Recommendations for Action

The Air Force already has a program for FGO's to receive formal education for

Air Force needs. This program is called Intermediate Development Education (IDE).

However, this program is for majors to get more technical education. However, the

literature and research suggests that it is at this stage in an officer's career that more

management education is needed. The Air Force already has the process in place for

FGOs to attend graduate education. By switching the focus from technical to managerial,

it could fill the middle-management educational gap and maybe reduce the number of

failed projects identified by the GAO which fail due to lack of effective management.

Limitations of the Study

The data we used in the study was not detailed. While it gives a broad overview,

specific details maybe lost. There are three data limitation areas. First, data concerning

the detailed education profile of each active duty Air Force officer was not available at

the time of this study and we had to go with latest education discipline. Therefore, there

was no way to determine if individuals were switching from technical to management

education or vice-versa. Second, looking at the PME lessons is a good indication of what the Air Force expects its officers to know for use in their jobs. However, it is only an expectation of what officers need, not a measure of what they do. Finally, the general officer biographies contain a lot of data. However, they seem to be self reported with some biographies emphasizing flying or assignment history more than education.

Another limitation was with the organization of the data. In the literature review, we were able to compare the balance areas (management-technical-leadership) all at the same time. However, when looking at the Air Force data, we could only look at two of the three. In the area of PME we could only view military, leadership and management lessons together, whereas with formal education we could only look at technical, management and other degree focus. Since management existed in both areas (but in different forms), combining them could have unfairly skewed the results, so we elected to report the PME and education areas separate.

The data we collected shows a trend of management education increasing with rank. We cannot determine if officers pursue formal management education to supplement the minimal management training provided by PME, to fill a unwritten requirement for promotion, because management degree programs are more assessable to the high-tempo pace of the military lifestyle, or a myriad number of other reasons. Unfortunately the data does not tell us why this occurs only that it does occur.

Finally, a limitation to the general officer profile is that these are people who have generally served more than 30 years in the Air Force. Their educational focus could be a

reflection of needs of the past and not a reflection of what is needed for present day military operations.

Recommendations for Future Research

Replication of this study with more complete data may validate the results of this study. However, that could prove difficult. In 2001, a study was done on the ratio of technical degrees earned from 1990-2000. One of the main difficulties was that prior to 1990, formal education data was sketchy at best (Downing 2001:39). In 2002, a report on technical education was made and again the data was difficult to interpret since only two degrees for each officer were tracked by AFPC (Bridgman 2002:2). We noticed that from the general officer biographies, many had more than just two degrees.

Another avenue of research that could be useful is to find out exactly what proportion of technical, managerial, and leadership skills officers are performing at each of the tiers. A careful distinction would have to be made to exclude the terms leadership and management from the questions, since the Air Force culture associates connotations and cloudy definitions to the terms.

A research effort into the demographics of all the officers entering the Air Force at the same time as our presently serving generals (known in military lexicon as officer year groups) may improve our understanding in this area of study. Since it appears that general officers had a high a concentration of management educational when joining the Air Force when compared to present day lieutenants, it would be beneficial to know if the generals are a representation of all officer accessions at that time or if the generals are representative sub-group at both the CGO and FGO tiers.

Additionally, developing a method to combine the PME results and formal educational profile of the USAF officer corps could be beneficial. This method would not only allow this research data to be presented as whole, it could also be used as a measuring stick for PME and formal education emphasis on an annual basis. This information could be used to adjust accession, formal education and PME needs as necessary.

One of the biggest limitations is that we know what the balances are, but not why. A case study where interviews of USAF general officers could provide insight to what the educational climate was like when they were serving in the CGO and FGO tiers. Furthermore, by interviewing or surveying officers presently in the CGO and FGO tiers, we could learn why officers choose their current field of study, whether or not it is useful in their current positions, if it is to supplement PME, or just the easiest way to fulfill an unwritten requirement that officers should have graduate degrees.

Summary

This chapter looked at the results of this study and drew three conclusions. First, general officers formal education path resembled the trend identified by the literature. Second, USAF PME below the rank of general does not resemble the trend identified by the literature. Third, it appears there may be a gap in the USAF middle manager positions (FGOs) in that management education seems to be les than expected. A recommendation was made for utilizing existing FGO education system and focus it more management training. This was followed by a discussion of the study's limitations. Finally, several future research recommendations were made.

Appendix A: ROTC Curriculum 2006-2007

AS100 2006-2007

LESSON	TITLE	HOURS
	FIRST TERM	
1	Welcome and Courses Overview	1
2	Introduction to ROTC	1
3	Air Force Dress and Appearance Standards	1
4	Military Customs and Courtesies	1
5	Air Force Heritage	2
6	Department of the Air Force	1
7	War and The American Military	1
8	Air Force Officer Career Opportunities	2
9	Air Force Benefits	1
10	Air Force Installations	1
11*	Military Communication Studies	2
AT1	Term Exam	1
	Total	15
	SECOND TERM	
12	Welcome and Course Overview	1
13	Air Force Core Values: The Price of Admission	2
14	Lead: It's What an Officer Does	1
15	Interpersonal Communications	1
16	Team Building: A Central Skill	2
17	Diversity and Harassment: Managing the Force	2
18	The Oath of Office: The Last Word	1
19*	Communication Skill Exercise (Used as instructor deems appropriate during the second term; introduced and explained during Lesson 11	4
AT2	Term Exam and Closing Remarks	1
	Total	15

AS200 2006-2007

LESSON	TITLE	HOURS
	FIRST TERM	
1	Intro to AS200 (Admin and Course Overview)	1
2	Airpower Thru WWI	3
3	Airpower: End of WWI thru WWII	3
4	Airpower Thru the Cold War	6
AT1	Administration / Test	2
	Total	15
	SECOND TERM	
5	Intro to AS200 (Admin and Course Overview)	1
6	Airpower in the Post Cold War	4
7	Communication Studies Application	2
8	Airpower Today	5
9	Communication Studies Application	1
AT2	Administration / Test	2
	Total	15
	AS200 TOTAL	30

AS300 2006-2007

LESSON	TITLE	HOURS
	FIRST TERM	
	Leadership Overview	
1	Introduction to Leadership	1
2	Air Force Leadership	3
3	Profession of Arms	1
	Basic Skills in Leadership	
4	Assessing Leaders	1
5	Sexual Assault Prevention & Response I	2
6	Introduction to Critical Thinking	1
7	Air Force Effective Writing	1
8	Writing Strategies	1
9	Basic of Briefing	1
10	Problem Solving	1
11	Problem Solving Exercise	1
12	Management Functions & Principles	1
13	Followership	1
14	Team Building / Exercise	3
15	Motivation	1
16	Editing: An Essential Endeavor	1
17	Group Conflict Management	1
18	Sexual Assault Prevention & Response II	2
19	Situational Leadership	1
20	"12 O'clock High" Case Study	4
	Military Relationship	
21	Professional/ Unprofessional Relationships	2
22	Unprofessional Relationship Case Studies	2
23	Briefings (Communication Studies Application)	6
AT1	Administration /Testing	6
	Total	45

LESSON	TITLE	HOURS
	SECOND TERM	
	Advanced Skills in Leadership (cont.)	
24	Power and Influence	1
25	"The Caine Mutiny": A Study in Dynamic Subordinacy	4
26	AF Military Equal Opportunity with Case Studies	2
27	Effective Supervision	2
28	Corrective Supervision & Counseling	1
29	Counseling & Practicum	4
30	Leadership Authority & Responsibility	2
31	Leadership Accountability	1
32	Leadership Accountability Case Study	1
33	Leadership and Management Case Studies	2
	Ethics in Leadership	
34	Core Values and the AF Member	1
35	Core Values Case Studies	2
36	Ethical and Moral Leadership in the Military	3
37	Joint Ethics	1
38	Supervisor's In-Basket	2
39	Capstone: "Remember the Titans"	4
N/A	Briefing (Communication Studies Application)	6
AT 2	Administration/Testing	6
	Total	45

AS400 2006-2007

LESSON	TITLE	HOURS
	FIRST TERM	
1	Intro to AS400	1
2	*The Air Force Complaint and Fraud, Waste and Abuse Programs	0
3	*Security Education	0
4	*Substance Abuse	0
5	*Officer Force Development	0
6	The US Constitution	1
7	Role of the President and Executive Branch, Congress, and Civilian Control of the Military	1
8	Terrorism/Force Protection	2
9	Setting the World Stage	1
10	Africa in Transition	4
11	U.S. Policy	1
12	Making Strategy	1
13	The Principles of War	1
14	War an the American Military	1
15	The Department of Defense	1
16	Total Force	1
17	Air and Space Functions	2
18	USAF Major Command	0
19	MOOTW	1
20	Air and Space Expeditionary Force	1
21	East Asia in Transition	4
22	Department of the Army	1
23	Department of the Navy	1
24	The Marine Corps	1
25	Latin America in Transition	4
26	Joint Operations	1
27	Law of Armed Conflict	2
28	UCMJ	0
29	Military Law	2

LESSON	TITLE	HOURS
30	Mil Law Case Studies	2

AS400 2006-2007 continued

LESSON	TITLE	HOURS
31	Communication Studies Applications	4
AT1	Administration/Testing	3
	Total	45
	SECOND TERM	
32	Europe in Transition	4
33	Bullet Statements With Impact	1
34	Feedback	2
35	Feedback Assessment	1
36	The Enlisted Force	1
37	Enlisted Evaluation System	2
38	EPR Assessment	1
39	Officer Evaluation System	1
40	Advocacy Briefing and Prep	1
41	The Middle East in Transition	4
42	Sexual Harassment Awareness	1
43	Information Assurance	2
44	Suicide Awareness	1
45	Operational Risk Management	1
46	NCO Perspective	1
47	Civilian Personnel	1
48	Russia and the Former Soviet Republics in Transition	4
49	The Oath of Office and Commissioning	1
50	Communications Studies Applications	11
AT2	Administration/Testing	4
	Total	45

Appendix B: OTS Curriculum 2006-2007

Communication Studies (CS)

LESSON	TITLE	HOURS
CS-0A.1	Understanding Publications	.5
CS-0A.2	T&Q: grammar & Writing Mechanics	1
CS-0A.3	T&Q: 7 Steps to Effective Communication	1
CS-0A.4	T&Q: Electronic Communication	.5
CS-0A.5	T&Q: Overview of Military Correspondence	.5
CS-0A.6	T&Q: Military Briefings	.5
CS-0A.7	Bullet Statements (Single Idea & I-A)	1
CS-1D	Grammar Assessment	1
CS-1A	Interpersonal Communication Case Study	1
CS-1C	Grammar Refresher	1
CS-2E	Bullet Statements with Impact	1
CS-1B	Basics of Briefing / Requirements	1
CS-2A	News Briefing Practice	4
CS-2B	Informative Briefing Measurement	4
CS-2C	Informative Briefing Feedback	2
CS-2D	Info Brief Remake	1
CS-4A	Squadron Brief-Off	3
CS-4B	Wing Brief-Off	1

Military Studies/International Security Studies (MS/ISS)

LESSON	TITLE	HOURS
MS-1A	War and the American Military	1
MS-1B	The U.S. Constitution	0
MS-1C -1F	USAF History Tapes: Early Years, WWII, Vietnam and Desert Storm	4
MS-1G	Heritage Bowl	2
MS-2A	Anti-Terrorism/Force Protection	2
MS-3A	Setting the World Stage	1
ISS-1A	Making Strategy	1
ISS-1B	US Policy I	0
ISS-1C	US Policy II	1
ISS-5A-5C	Area Studies I, II and III	3

Leadership Studies (LS)

LESSON	TITLE	HOURS
LS-1A	Group Dynamics	0
LS-1B	Self Assessment (DiSC)	1
LS-1C	Self-Management	0
LS-1D	Air Force Military Equal Opportunity	0
LS-1E	Managing Diversity	1
LS-1F	Equal Opportunity and Treatment	2
LS-1G	The Honor Code	1
LS-1H	Environmental Awareness	0
LS-1I	Introduction to Critical Thinking	0
LS-1J	Team Building	1
LS-1K	Problem Solving	1
LS-1L	Problem Solving Exercise	1
LS-1M	Management Functions and Principles	1
LS-1N	Sexual Harassment	1
LS-1O	Sexual Assault Prevention	2
LS-2A	Introduction to Leadership	1
LS-2B	Air Force leadership	1
LS-2C	Leadership Authority & Responsibility	2
LS-2D	Motivation	1
LS-2E	Situational Leadership Model	1
LS-2F	Leadership Case Study 12 O'Clock High	4
LS-2G	Power and Influence	1
LS-2H	Group Conflict Management	2
LS-2I	Group Conflict Management Exercise	1
LS-2J	Personal and Group Goals	1
LS-2K	Followership	1
LS-3A	AFOATS Training Guide	1
LS-3B	Peer Evaluations I	0
LS-3C	Effective Supervision	1
LS-3D	Corrective Supervision	1
LS-3E	Counseling and Practicum	4
LS-3F	Performance Feedback	1
LS-3G	Performance Feedback Exercise	1
LS-3H	Performance Feedback Assessment	1
LS-3I	Enlisted Evaluation System	1
LS-3J	EPR Exercise	2
LS-3K	EPR Assessment	1
LS-3L	Officer Evaluation System (OES)	1
LS-4A	Leadership and Management Case Studies	2
LS-4B	Joint Ethics Regulation	1
LS-4C	Peer Evaluations II	0

Leadership Studies continued

LS-4D	Leadership Accountability	1
LS-4E	Accountability Case Studies	1
LS-4F	Operational Risk Management	0
LS-4G	Supervisor's "In Basket"	4

Drill and Ceremonies (DR)

LESSON	TITLE	HOURS
DR-1A	Drill – Block 1	2.5
DR-1B	Drill – Block 2	2.5
DR-1C	Drill – Block 3	2.5
DR-1D	Drill – Block 4	2.5
DR-1E	Dorm Instruction	3.5
DR-1F-1H	MTI Dorm Inspection	5.5
DR-2A	Drill Practice	2.5
DR-3A	Drill Competition Practice	2.5
DR-3B	Drill Competition	2.5
DR-4A	Ceremonial Drill	2.5
DR-4B	LFC/ALFC Briefing	1
DR-4C	Saber Training	2.5
DR-4D	Key Personnel Training	2.5
DR-5A	Parade Practice 1	2
DR-5B	Graduation Practice 2	2
DR-5C	Parade Practice 3	2
DR-5D	Parade Practice 4	2
DR-6A	Parade Practice 1	2
DR-6B	Parade Practice 2	2
DR-6C	Parade Practice 3	2
DR-6D	Parade Practice 4	2
DR-7A	Parade	1.25
DR-7B	Parade 4	1.25

Field Leadership (FL)

LESSON	TITLE	HOURS
FL-1A	Introduction to Field Leadership	1
FL-1B	Project X	4.5
FL-1C -1C.3	Leadership Reaction Course	16
FL-2A	Exercise Optimal Mast	2
FL-2B	Operation Planning	1
FL-2B.1-.8	Operation Execution	25.5
FL-3A	Introduction to Air Expeditionary Force (AEF)	1
FL-3B -3G	Air Expeditionary Force Exercise	41
FL-4A	Weapons Safety/Live Fire (6.0 hours)	0

Physical Readiness Training (PRT)

LESSON	TITLE	HOURS
PRT-0A	Physical Conditioning Fundamentals	1.25
PRT-1A	PFT Diagnostics	2.25
PRT-1A.1-.4	Physical Fitness Assessment (PFT)	0

Profession of Arms (PA)

LESSON	TITLE	HOURS
PA-1A	Military Customs and Courtesies	2
PA-1B	Dress & Grooming I	1
PA-1C	OTS CC Welcome/Air Force Core Values	1
PA-1D	Core Values and the Air Force Member	1
PA-1E	Air Force Core Values Case Studies	1
PA-1F	Substance Abuse Control Program	1
PA-1G	Profession of Arms	1
PA-1H	Security Education	0
PA-1I	Air Force Complaint Program	0
PA-1J	Department of the Air Force	1
PA-1K	Law of Armed Conflict	0
PA-1L	Principles of War	1
PA-1M	Dress & Grooming II	1
PA-2A	Department of Defense	0
PA-2B	Pay, Allowances, and Leave	2
PA-2C	Air and Space Functions	2

Profession of Arms (PA) continued

PA-2D	Air Force Competencies and Concepts of Operation	0
PA-2E	Officer Force Development	0
PA-2F	MAJCOMS	0
PA-2G	Civilian Personnel	0
PA-2H	Air Force Space Command	1
PA-3A	The Enlisted Force	1
PA-3B	UCMJ	0
PA-3C	Military Law	2
PA-3D	Military Law Case Studies	2
PA-3F	Department of the Army	1
PA-3G	MOOTW	1
PA-3H	Professional and Unprofessional Relationships (UPRs)	2
PA-3I	Professional and Unprofessional Relationship Case Studies	2
PA-3J	Department of the Navy	1
PA-3K	The Marine Corps	1
PA-3L	Joint Operations	1
PA-4A	Air Expeditionary Force	1
PA-4B	Code of Conduct	1
PA-4C	Your First Officer Assignment	1
PA-4D	The First Sergeant Perspective	1
PA-4E	Senior NCO Perspectives	1
PA-4F	Suicide Awareness	1
PA-4G	Etiquette and Decorum	0
PA-4H	Oath of Office and Commissioning	1
PA-4I	Information Assurance and Computer Security	1
PA-4J	Financial Briefing	1

Appendix C: USAFA Curriculum 2006-2007

PDP 100: Fourth-Class Professional Military Education (Fall 2006)

Lesson	Title
M1	CPME Overview
T2	Alcohol and Substance Abuse Policy
M5	Goal Setting & Personal Leadership
T7	HR - Socialization Process
T9	Honor- Support Components
M12	Sexual Assault - Accession Training Part I
T14	Sexual Assault - Accession Training Part II
M17	Personal Leadership
T19	Financial Responsibility
T21	Honor - Unit Culture
T23	Sexual Assault - Street Smarts
M26	HR - Perceptions, Process, & Stereotypes
T28	Honor - Perception, Reality, & Honor
T30	UCMJ #3
M33	UCMJ #4
M35	Interview - How to Meet a Board
T37	Honor - Case Analysis
T38	CPME Review
M40	Test

PDP 101: Fourth-Class Professional Military Education (Spring 2007)

Lesson	Title
M1	Overview & AF Core Values
M3	Honor #1
T5	Profession of Arms
M8	Base Functions
T10	Government Traveling
M13	Honor #2
M15	HR #1 - Racism & Sexism
T17	HR #2 - Prejudice & Unlawful Discrimination
M20	Sexual Assault - Accession Training Part III
T22	Sexual Assault - Accession Training Part IV
T24	Honor #3
T26	Substance Abuse Prevention
M29	Sexual Assault (Males)
M30	Sexual Assault (Females)
T31	Interpersonal Leadership
M34	Honor #4
T36	CPME Review
M39	Test

PDP 200:   Third-Class

Professional Military Education (Fall 2006)

Lesson	Title
M1	CPME Overview
T2	Bridging the Gap - Leadership vs. Followership
M5	Coaching
T7	Sex Aslt - AF Policy and Services
T9	Accountability
M12	Honor - Back to Basics
T14	Basics of a Briefing
M17	Briefing Practicum
T19	Honor - New Challenges
T21	AF Public Affairs
T23	Team Building
M26	Problem Solving Pt I
T28	Problem Solving Pt II
T30	Honor - Unit Culture
M33	Subs. Abuse - Policy Education/Social Norms
M35	Leadership in Chall. Circumstances
T37	CPME Semester Review
M40	Test

PDP 201: Third-Class Professional Military Education (Spring 2007)

Lesson	Title
M1	Overview & Commitment/Oath of Office
M3	Leadership and AFDD 1-1
T5	Honor #1 (Open Forum)
M8	Career Opportunities Pt I
T10	Career Opportunities Pt II
M13	Team Leadership
M15	Situational Leadership Pt I
T17	Sexual Assault (Males)
T18	Sexual Assault (Females)
M20	Honor 2 - Living Honorably
T22	Situational Leadership Pt II
T24	AF CONOPS
T26	AEF Concepts
M29	Honor 3 - Competing Loyalties
T31	Substance Abuse - Education & Relationships
M34	Leadership in Challenging Circumstances
T36	CPME Semester Review
M39	Test

PDP 300: Second-Class Professional Military Education (Fall 2006)

PART A

Lesson	Title
T2	Mentoring Part I
M5	Back to Basics in Honor
T7	Social Norms and Controlled Drinking
T9	Mentoring Part II: Power Pact Mentoring Model
M12	Performance Feedback Process
T14	Performance Feedback Worksheet Practicum
M17	Promoting Diversity
T19	Accountability Case Study
T21	Accountability Case Study Discussion
T23	Supervisor's Role in Equal Opportunity Treatment Activities
M26	Preventive Discipline
T28	Corrective Supervision
T30	Preventive Discipline/Corrective Supervision Case Studies
M33	Sexual Assault Services and AF Policy
M35	Air National Guard/Air Force Reserve
T37	CPME Review
M40	Test

PART B

Lesson	Title
M1	CPME Overview

PDP 301: Second-Class Professional Military Education (Spring 2007)

PART A

Lesson 1	Leadership Qualities (Team)
Lesson 2	Substance Abuse – Character Ed. & Alcohol Use
Lesson 3	Maintaining & Enforcing Standards
Lesson 4	Maintaining & Enforcing Standards Case Study
Lesson 5	Effective Communication Principles
Lesson 6	Honor – Mass Lecture
Lesson 7	Effective Supervision
Lesson 8	SNCO Perspective
Lesson 9	Sexual Assault – "Sex Signals"
Lesson 10	Leadership Authority and Responsibility (AFOATS)
Lesson 11	HR – Effects on Working/Social/Living Environ.
Lesson 12	Organizational Leadership
Lesson 13	Organizational Leadership Case Studies
Lesson 14	Interview Lesson
Lesson 15	Air Force MAJCOMS (?)
Lesson 16	New Lesson
Lesson 17	Test

PART B

1	CPME Semester Overview
2	RSVP 2
3	RSVP 2
4	RSVP 2
5	CPME Semester Review

PDP 400: First-Class Professional Military Education (Fall 2006)

Lesson	Title
T2	CPME Overview
M5	ORM
T7	Getting Back to Basics
T9	Group Conflict Management
M12	System/Victim Focus
T14	Power
M17	Fraud, Waste, and Abuse
T19	Sexual Assault Service/AF Policy
T21	Civilian Personnel
T23	Enlisted Evaluation System
M26	Enlisted PME
T28	Enlisted OJT/CDCs
T30	Concepts of Culture
T31	LES/TSP
M33	AF Assignment System
M35	Policy Education and Leadership Responsibility
T37	CPME Review
M40	Test

PDP 401: First-Class Professional Military Education (Spring 2007)

PART A

Lesson 1	Overview / LES-TSP
Lesson 2	Writing For Impact
Lesson 3	Enlisted Performance Reports
Lesson 4	Sexual Assault
Lesson 5	Officer Evaluation System
Lesson 6	Officer PME
Lesson 7	Officer Promotion Boards
Lesson 8	Unprofessional Relationships
Lesson 9	Professional Relationships
Lesson 10	Professional Relationships Case Studies
Lesson 11	Understanding How to Lead a Diverse Force
Lesson 12	Assessing Leaders
Lesson 13	AF Civilian Employee EEO Process
Lesson 14	Substance Abuse
Lesson 15	Your First Base
Lesson 16	Honor Guest Speaker
Lesson 17	Test

PART B

Lesson 1	PML - Overview

Appendix D: ASBC 2006 Syllabus

Area A1000 – Profession of Arms

A1120	SOC/CC Perspective
A1210	Air and Space Systems and Capabilities
A1220	Air and Space Power Operational Functions
A1230	Force Packaging
A1240	Introduction to AFEX
A1250	AFEX Exercise
A1310	Distinctive Capabilities I
A1320	Distinctive Capabilities II
A1370	Introduction to AIRGAP
A1380	AIRGAP Exercise
A1410	Joint Operation
A1420	US Army
A1421	US Navy
A1422	US Marine Corps
A1423	Coalition Multinational Operations
A1424	Air Force Organization
A1425	Service Perspectives
A1430	Special Operations
A1440	Interagency Coordination
A1460	Air and Space Power Command and Control
A1470	Air Force Transformation
A1510	Space Fundamentals
A1520	Information Operations
A1530	Air and Space Expeditionary Force
A1540	Total Force
A1610	Joint Planning
A1615	Joint Air Estimate Process (JAEP)
A1620	Methods of Targeting/Target Identification Exercise
A1710	JAEP Phase I, Mission Analysis
A1720	JAEP Phase II, Situation and COA Development
A1730	JAEP Phase III & IV, COA Analysis, Comparison and Selection
A1740	JAEP Phase VI, JAOP
A1770	Blue Thunder III Debrief
A1830	Law of Armed Conflict and the Code of Conduct
A1840	Ethics, Values, and Moral Dilemmas
A1900	Distinguished Speaker Series: Officership (4)
A1911	Hero/Core Values

Area A2000- Leadership and Management

A2120	Warrior Run
A2130	Physical Readiness Training
A2210	Fundamentals of Team Building and Problem Solving
A2220	Outdoor Team Building Exercise
A2230	Team Challenge
A2250	Team Problem Solving
A2260	Team Challenge X
A2280	Warrior Challenge
A2510	Peer Feedback/Final Feedback
A2620	Senior Officer Perspectives
A2630	The Enlisted Force
A2900	Leadership and Management Guest Speakers

Area A3000- Military Studies

A3010	Theory, Doctrine, Objectives, and Strategy
A3020	Early Air Power Theory
A3030	Strategic Bombardment in WWII
A3035	Beyond Strategic Bombardment
A3040	Doctrinal Debates Korea and The Cold War
A3045	Airpower Successes and Failures in Vietnam
A3050	Operation DESERT STORM
A3055	Operation ALLIED FORCE
A3060	Operation ENDURING FREEDOM
A3065	Operation IRAQI FREEDOM
A3080	Air War/Iraq
A3910	Tuskegee Airmen

Area A4000 – Communications

A4310	Briefing Skills
A4320	Briefings
A4330	Public Affairs Training
A4410	Interpersonal Communications

Area A5000 – International Security Studies

A5005	Military and the Constitution
A5010	Conflict
A5920	War on Terrorism

CO00 – Combined Operations

CO3	Perspectives Exchange
CO5	Enforcing Standards
CO6	Leadership and Counseling
CO7	What Would You Do?
CO8	Values Exercise
CO12A	AEF Deployment Readiness
CO12B	AEF Map and Compass
CO12C	AEF Employment
CO12D	AEF Fight
CO12E	AEF Survival
CO12F	AEF Brain Teaser
CO10	Project X
CO10B	Operation Black Cloud
CO11	Bullet Statement Evaluation Skills, Feedback Portion

Appendix E: Squadron Officer School (SOS) Syllabus 2006

Area 1000 Profession of Arms

Lesson	Description
S1110	Accountability
S1130	Calico Harbor
S1160	Ethics and Core Values
S1220	AIRGAP (USAF Distinctive Capabilities)
S1230	Operations in Cyberspace
S1240	Space Employment
S1250	Total Force
S1260	Joint and Coalition Domains
S1270	Air Force and Future Joint Concepts
S1280	Air Operations Center
S1290	Air and Space Expeditionary Force
S1900 Series	Profession of Arms Speakers
S1910	Hero/Core Values--Lt (ret) Clebe McClary
S1990	Warrior Symposium

Area 3000 Military Studies

S3005	Nature of Warfare
S3010	Evolution of Airpower Doctrine
S3030	Applications of Air Power: WWII, Cold War, Korean War
S3040	Applications of Air Power: Vietnam
S3060	Applications of Air Power: Gulf War
S3070	Balkans Background Lecture
S3080	Operation ENDURING FREEDOM
S3090	Operation IRAQI FREEDOM
S3900 Series	Military Studies Guest Speakers
S3925	AOR Force Protection

Area 2000 Leadership and Management

S2110	Teambuilding Exercise
S2120	Teambuilding
S2130	Commander's Intent
	Commander's Intent Discussion
S2210	Puzzle Group Exercise
S2230	APTEC Seminar
S2310	Followership
S2320	Situational Leadership II
S2325	Situational Leadership II Case Studies
S2330	Decision Making and Goal Setting
	Leadership Development Scenario #1
S2340	Team Decision Making/Goal and Conflict Management
	Leadership Development Scenario #2
S2350	Intragroup Structure, Culture, and Leadership
	Leadership Development Scenario #3
S2410	Operation FLICKERBALL (Fundies, Practice, Operations)
S2415	Operation Flickerball Mission Brief (x3)
S2420	Team Leadership Problem (x3)
S2430	Project X (x2)
S2510	Developing and Mentoring Your Airmen
S2515	Reflections on Developmental Counseling
S2530	Promotion Board Exercise
S2560	Case Studies in Military Justice
S2570	Sexual Harassment Case Study
S2620	Senior Officer Perspectives
S2900 Series	Leadership Guest Speakers
S2900	Leadership Guest Speaker -- Lt Gen Lorenz
S2910	Leadership Guest Speaker -- Officer/Enlisted Bond

Area 4000 Communication

S4110	Air Force Writing
S4130	AF Writing Assignment Feedback
	ISS Writing Assignment
S4140	ISS Writing Assignment Feedback
S4150	Writing OPRs
S4220	Speaking Effectively and Job Brief Assignment
S4230	Job Brief
S4240	ISS Briefing Assignment
S4250	ISS Briefing

Area 5000 International Security Studies

S5020	Causes of War
S5030	National Security Strategy and Instruments of Power
S5040	Applications of NSS and IOP
S5100	Homeland Security
S5900 Series	International Security Studies Guest Speakers
S5910	Middle East
S5930	Sunni/Shi'a Issues

Area 9000 Administration

S9000	Administration/Intro/Welcome
S9000	Testing
S9000	Hall Rally
S9000	Graduation
S9200	Standup (x4)
S9400	SOS Feedback (Midterm/Final)
S9500	Fitness Assessment/Warrior Run
	Mission Area Package
	Flight Program Time
	Physical Conditioning Training

Appendix F: Air Command and Staff College Syllabus 2006

Leadership and Command

Lesson	Title
LC500/501	Foundations of Military Leadership
LC502	The Role of Values, Ethics, and Accountability in Military Leadership
LC503	Organizational Change, Vulture, and Conflict in Military Leadership
LC504	Leadership in the Deployed/Multinational Environment
LC505	The Military Commander
LC506	Leading and Developing People

National Security Studies

NS500/501	Course Introduction / The challenges of a Changing Strategic Environment
NS502	Strategy: Ways, Ends, and Means
NS503	The Instruments of Power
NS504	The President and National Security
NS505	Military Strategy
NS506	American Military Strategy
NS507	Strategic Direction
NS508	Defense Planning Systems
NS509	Failing States and Terrorism
NS510	Major Regional Conflict
NS511	Weapons of Mass Destruction

Expeditionary Air and Space Power

AP500/501	Foundation of USAF Doctrine
AP502	Airpower: WWII through Vietnam
AP503	Air and Space Power in DESERT STORM
AP504	Post-DESERT STORM through ALLIED FORCE
AP505	Operation ENDURING FREEDOM
AP506	Operation: IRAQI FREEDOM
AP507	Distinctive Capabilities, and the Functions of Air and Space Power
AP508	USAF Doctrine and Join Doctrine Relationships
AP509	Space and Information Operations
AP510	Presentation of USAF Forces

Joint Forces

JF500	Introduction to Joint Forces
JF501	Organizations, Staffs, and Functional Components
JF502	Regional Geographic Combatant Commanders
JF503	Army Forces (ARFOR) Doctrine, Capabilities, and Limitations
JF504	Naval Forces (NAVFOR) Doctrine, Capabilities, and Limitations
JF505	Marine Forces (MARFOR) Doctrine, Capabilities, and Limitations
JF506	Coast Guard Roles and Missions
JF507	United States Special Operations Command (USSOCOM)
JF508	United States Joint Forces Command (JFCOM)
JF509	United States Transportation Command (USTRANSCOM)
JF510	United States Strategic Command (USSTRATCOM)

Joint Campaign Planning

JP500/501	Course Introduction/Campaign Planning
JP502	Operational Art
JP503	Military Operations Other Than War (MOOTW)
JP504	Multinational/Interagency Cooperation
JP505	Civil-Military Operations/Conflict Termination
JP506	Deliberate Planning
JP507	Crisis Action Planning

Joint Air Operations

JA500/501	The JFACC
JA502	The Joint Air Estimate Process – Part 1
JA503	The Joint Air Estimate Process – Part 2
JA504	The Joint Air and Space Operations Center
JA505	The Targeting Process
JA506	Air Force Exercise (AFEX)

Appendix G: Air War College Syllabus

Lesson	Description
1	Strategic Leader Framework
2	Strategic Leadership – A Strategic Art
3	Leading A Large and Complex Organization
4	Senior Leader Skills
5	Leadership Competencies
6	Senior Leader Perspectives
7	Leadership Responsibility & Accountability: Cases 1 & 2
8	Leadership Responsibility & Accountability: Cases 3 & 4
9	Leadership Responsibility & Accountability: Cases 5 & 6
10	Poor Judgments versus Crimes: Cases 7 & 8
11	Poor Judgments versus Crimes: Cases 9 & 10
12	Air Force Institutional Pioneers: The Early Years
13	Air Force Institutional Pioneers: The Cold War Era
14	Leading in Crisis
15	Leadership Challenges in the 21st Century
16	Cross-Cultural Leadership Challenges
17	Space Shuttle Columbia Tragedy: Case 11

International Security and Foundations of Warfighting Lessons

18	US National Security and Policies
19	Globalization
20	Traditional Challenges to US National Interests
21	Non-Traditional Challenges to US National Interests
22	China and East Asia
23	Central and South Asia
24	The Challenges of the Range of Military Operations
25	Warfighting Concepts of the Air Force Employment
26	Command and Control of Air and Space Power
27	Joint Doctrine and the Global War on Terrorism

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Vita

Captain Mathew J. Heath Van Horn graduated from St. Peter High School in St. Peter Minnesota in 1989. He immediately entered the Air Force where he entered technical training as a Ground Radio Communications Repair Specialist at Keesler AFB, Mississippi. In 1990 he repaired high frequency transmitters for the 2130th Communications Group, Detachment 1, RAF Barford St. John, England. In 1999, he was assigned to the 37th Communications Squadron at Lackland AFB, Texas where he served a variety of jobs culminating in that of a maintenance control operator. At this assignment, the education opportunities allowed him to enter undergraduate studies at the Park University, Lackland AFB extension office. He graduated in 2001 with a Bachelor of Science degree in Computer Science and graduated Officer Training School in 2002.

His first assignment as an officer was to the 55th Computer Systems Squadron, Offutt AFB, Nebraska, where he served a variety of duties in support of the Strategic Automated Command and Control System (SACCS) mission, culminating as Officer in Charge of the operations flight. While still stationed at Offutt AFB, he was selected as the support flight commander for the 55th Communications Squadron. In Sept 2005, he entered the Graduate School of Engineering and Management, Air Force Institute of Technology.

1. REPORT DATE *(DD-MM-YYYY)* 22-03-2007	**2. REPORT TYPE** **Master's Thesis**		**3. DATES COVERED** *(From – To)* Sep 2005- Mar 2007		
4. TITLE AND SUBTITLE An Analysis of the Balance of Management, Technical and Leadership Progression through the Three USAF Officer Tiers			**5a. CONTRACT NUMBER**		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Heath Van Horn, Mathew J., Captain, USAF			**5d. PROJECT NUMBER** If funded, enter ENR #		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAMES(S) AND ADDRESS(S) Air Force Institute of Technology Graduate School of Engineering and Management (AFIT/EN) 2950 Hobson Way WPAFB OH 45433-7765			**8. PERFORMING ORGANIZATION REPORT NUMBER** AFIT/GIR/ENV/07-M10		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) SOC/DEO/SOS Attn: Capt Joshua M. Pope 125 Chennault Circle Building 1403, Suite 2248 Maxwell AFB, AL 36112 DSN: 493-9427			**10. SPONSOR/MONITOR'S ACRONYM(S)**		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.					
13. SUPPLEMENTARY NOTES					

14. ABSTRACT

 The purpose of this research was to identify the balance of management, technical and leadership responsibilities learned at each of the three USAF officer tiers. Specifically, this thesis sought to answer research questions addressing the essential learning elements for developing leadership, technical and management knowledge and skills as well as the proportional emphasis of the three areas in each of the three officer tiers. The questions were answered through a comprehensive literature review and a review of current professional military education (PME) syllabi and educational profiles of USAF officers. The research identified that management training does not grow with the level of PME, but rather is eliminated in the field grade officer ranks. Furthermore, general officers tend to follow the literature expectations by pursuing graduate level management education.

The culmination of this effort was the possibility of emphasizing the need for management training at the field grade officer level. Recommendations to implement more management training are discussed.

15. SUBJECT TERMS Management Training, Leadership Training, Technical Training, Professional Military Education, Management, Company Grade Officer, Field Grade Officer, General Officer, Balance of Training, Officer Training, Officer Education					
16. SECURITY CLASSIFICATION OF:			**17. LIMITATION OF ABSTRACT**	**18. NUMBER OF PAGES**	**19a. NAME OF RESPONSIBLE PERSON** Alan R. Heminger, PhD USAF (ENV)
REPORT U	**ABSTRACT** U	**c. THIS PAGE** U	UU	104	**19b. TELEPHONE NUMBER** *(Include area code)* (937) 255-3636, ext 7405; e-mail: Alan.Heminger@afit.edu